NATIONAL YOUTH AUTHORITY · GHANA

NYA Youth Operations Platform (NYA-YOP)

Master Proposal, Version 3 — Strategy, Product, Data & Compliance, Delivery, Case, Screens, APIs and Security

Prepared for: National Youth Authority (NYA), Ghana
Version: 3.0 — consolidates Blueprint v2, Screen Specification v2, the API & Security Specification and the Consolidated Delivery Principle into one document
Date: 13 September 2026
Status: Decision-ready working proposal. Every external claim carries a source; figures marked [estimate] are planning assumptions, not quotations; every number on every screen is illustrative

It makes the Tracker true.

Parts I–VIII: Strategy · Product · Data, Technology & Compliance · Delivery · The Case · Screen-by-Screen Specification · API, Security & Interoperability · Consolidated Delivery Principle

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About version 3

Version 3 is a consolidation, not a rethink. Version 2 (8 September 2026) already made the substantive corrections that an independent review demanded — the National Service Authority, GLMIS, the Cybersecurity Act and the Data Protection Bill, disbursement control, the verification ladder, costs and procurement. Version 3 brings the separate documents into one master, closes the gaps the review left open, and aligns everything with the clickable prototype that now exists.

What version 3 adds	Where
One document: strategy, product, data/technology/compliance, delivery, the case, the screen specification, the API and security specification, and a consolidated delivery summary	Parts I–VIII
The ten screens the review found missing are now specified — disbursement run, payment exception, workplace profile, grievance workspace, consent register, safeguarding tier, verification ladder, officer workload and time, integration reconciliation, sync conflict resolution	Part VI, Screens 61–70
Employer screens reframed rather than deleted: a GLMIS-fed employer surface that shortlists NYA programme completers against a GLMIS vacancy and confirms placement and retention — the evidence GLMIS cannot collect	Part VI, Screens 24–28 and §85
API, security and interoperability specification aligned to version 2: GLMIS, GIFMIS and the payment channel as connectors; NSA corrected; disbursement, verification-ladder, grievance and consent endpoints; events for the money chain; the compliance stack as controls rather than a paragraph	Part VII
Consolidated delivery principle rewritten for the version 2 positioning: the 90-day proof, the discovery ask, the Verified Conversion Rate and a one-page board summary	Part VIII
A clickable prototype covering every screen in Part VI across five personas — NYA staff, training centre, employer, partner, youth — in the Youth Employment Agency's colours, with a guided demo path	Part VIII §9

How to read this document. Part I settles what NYA-YOP is and is not. Parts II–III specify the product and its data, technology and compliance. Part IV is the delivery plan and Part V the case. Part VI is the screen specification, Part VII the API and security specification, and Part VIII the summary a board can decide on. Readers with an hour should read Part I §1–4, Part IV §43, Part V §61–63 and Part VIII.

About version 2 (retained from the 8 September 2026 revision)

Version 2 is a substantial revision of the 8 September 2026 draft following an independent review against Ghanaian government sources, national press and the Ministry of Youth Development and Empowerment's own 2026–2029 Medium-Term Development Plan.

What changed, and why it matters:

Change	Reason
Repositioned from "the national cross-programme journey layer" to "NYA's delivery system that feeds the Youth Tracker"	MYDE's Youth Tracker already claims the cross-agency layer. See §4
NSA corrected throughout to the National **Service** Authority	v1 treated NSA as the National Sports Authority. NSA is one of the four MYDE agencies
GLMIS added to the ecosystem; employer portal and matching modules removed	The Ghana Labour Market Information System already provides these nationally
Disbursement Control added as a core module (§18)	NAP pays monthly allowances and start-up capital. v1 had no payment controls at all
Identity verification ladder designed (§13)	v1 asserted identity matching without designing the no-Ghana-Card path
Master craftspersons and workplaces added to the data model (§16, §31)	NAP is 70% workplace learning. v1 had no informal-sector actor
Grievance, consent and safeguarding made first-class (§17, §38)	Adverse decisions need a redress route; minors need a distinct legal regime
Cybersecurity Act 2020 (Act 1038) and the **Data Protection Bill 2025** added (§37, §38)	Both are live compliance regimes v1 did not mention
Build-versus-adapt evaluated (§36)	v1 assumed a bespoke build without considering digital public goods
Costs, procurement and funding added (§49, §50)	v1 contained no financial information of any kind
90-day proof added ahead of the 12-month roadmap (§43)	Reduces the decision to something NYA can approve now
Pilot redesigned with a comparison group and pre-registered analysis (§45)	v1's pilot could not have attributed any result to the platform
Baselines populated from published data (§54)	v1 listed KPIs with no current values

Every external claim in this document carries a source. Figures marked **[estimate]** are planning assumptions produced for this document, not quotations and not sourced.

PART I — STRATEGY

1. Executive Summary

Ghana does not need another youth opportunities app. It does not need another job board, another skills portal, or another dashboard.

What is missing is the **operational system that produces trustworthy delivery data in the first place**.

Government can currently say how many young people registered. It cannot reliably say what happened to them afterwards. That is not a failure of intent — it is a failure of instrumentation. The transactions that would answer the question, such as an officer verifying a beneficiary, a trainer marking attendance, an employer confirming a placement held, either happen on paper or do not happen at all.

NYA-YOP is the system that captures those transactions at the point they occur, and publishes them as verified events into Ghana's national youth intelligence layer.

The proposition changes the question from:

> *"How many young people registered?"*

to:

> ***"What happened to each young person after government supported them — and can we prove it?"***

1.1 The evidence this is the right problem

This is not an outside diagnosis. The Ministry of Youth Development and Empowerment's own 2026–2029 Medium-Term Development Plan lists, in its official sector SWOT analysis:

Weaknesses:

- "Weak Inter-Agency Coordination"
- "Inadequate and Unreliable Data base on youth programmes"
- "Inadequate Monitoring and Evaluation (M&E) Systems"
- "Fragmented and uncoordinated policies and programmes"

Threats:

- "Overlapping Mandates and Parallel Institutions"
- "Paucity of Youth related data"

And its knowledge-mapping matrix records the gap outright: **"absence of real-time data on youth"** and **"Fragmented limitations to data on the youth"**.

Source: MYDE 2026–2029 Medium-Term Development Plan, pp. 20 and 79

NYA-YOP is a direct answer to a problem the Ministry has already written down.

1.2 The problem in one number

As at 2 August 2026, the One Million Coders Programme had **141,954 registrations, 27,782 active learners and 5,812 course completions** (MyJoyOnline).

Nobody can currently tell you what happened to those 5,812 afterwards.

That is the gap NYA-YOP exists to close — first for NYA's own programmes, then as a proven pattern the Ministry can extend.

1.3 The pathway to be made measurable

```
Opportunity → Application → Verification → Selection → Participation →
Training → Assessment → Certification → Placement → Employment/Business →
Income/Growth → Follow-up → Verified Outcome
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Every arrow in that chain is a place a young person is currently lost from the record. NYA-YOP instruments each one.

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2. The Problem, Stated Precisely

2.1 What Ghana has built

Ghana's youth ecosystem is not short of intervention. It is short of connective tissue.

System	Owner	What it does
YouthXplore	MYDE	Youth-facing opportunity discovery and AI-oriented matching; launched 3 December 2025
Youth Tracker	MYDE	National youth intelligence dashboard fed by NYA, YEA, NEIP, NSA and partner ministries
GLMIS	Ministry of Labour, Jobs and Employment (Labour Department)	National vacancy publication, employer registration, job-seeker profiles, job matching, training-provider directory, labour-market analytics
One Million Coders (OMCP)	MoCDTI	National digital-skills training; 130 centres across 16 regions
National Apprenticeship Programme (NAP)	NYA	Apprenticeship training, 30% classroom / 70% workplace, with monthly allowances and start-up capital
YEA	MYDE	Employment modules, skills training, job centre services
NEIP / Adwumawura	MYDE	Entrepreneurship training, mentorship and grant funding
NSA (National Service Authority)	MYDE	Deployment of tertiary graduates into public and private sector service placements
CTVET / TVETMIS	Ministry of Education	TVET standards, accreditation and certification; TVETMIS in development
NIA	Presidency	National identity and the Identity Verification Service Platform

Sources: GNA, GLMIS, MoCDTI, MYDE, CTVET, NIA

2.2 What is genuinely missing

None of the systems above generates the **operational transaction** that proves delivery.

- YouthXplore takes an application. It does not verify the applicant in the field.
- The Youth Tracker reports what agencies submit. It has no way to make what they submit true.
- GLMIS matches labour supply to demand. It cannot tell you whether the young person NYA trained actually took the job, or was still in it six months later.
- OMCP records course completion. It does not follow the learner into employment.
- TVETMIS will record certification. It does not run programme delivery.

A dashboard cannot be more truthful than the operational system underneath it.

NYA runs national programmes through regional and district officers, training institutes and workplaces. It has the field presence that generates real delivery data. It does not yet have the system to capture it.

2.3 The scale of the need

Indicator	Value	Source
Youth unemployment, ages 15–35	**21.9%** (avg. Q1–Q3 2025)	GSS via Graphic Online
National unemployment	12.8%	as above
Youth not in education, employment or training	**~1.9 million** — 19.5% of the 15–35 cohort	Citi News / GSS
Youth share of population	36.9% of ~33.7 million	GSS, as above
Highest regional youth unemployment	Greater Accra 31.9%, Central 27.4%, Ashanti 27.2%	GSS, as above
MYDE target	Reduce youth unemployment to **10% by 2029**	MYDE MTDP

2.4 The scale NYA itself must deliver

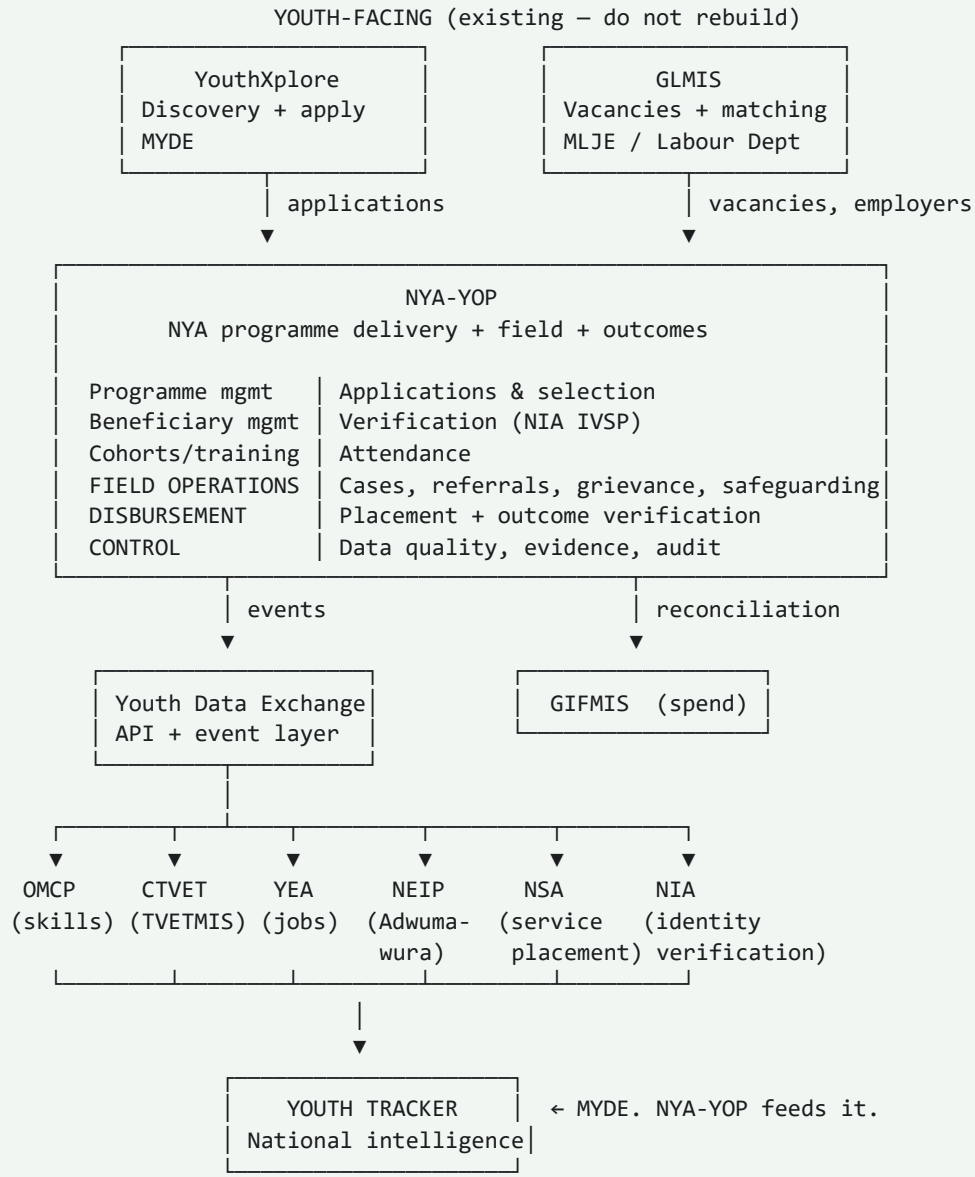
The Ministry's MTDP results framework sets NYA training targets of **10,000 → 100,000 → 140,000 → 250,000 → 250,000** across the plan period — approximately **750,000 individual records**. The National Apprenticeship Programme alone targets **100,000 apprentices in 2026** (NYA CEO, Modern Ghana).

Delivering at that volume on spreadsheets and paper registers is not a data-quality risk. It is a delivery risk, a fiduciary risk and a reputational risk.

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3. The Ecosystem As It Actually Is

3.1 Revised ecosystem map



3.2 What NYA-YOP builds, integrates, and refuses to build

Capability	Existing owner	NYA-YOP role
Youth opportunity discovery	YouthXplore	**Integrate** — receive applications
National youth intelligence	Youth Tracker	**Feed** — publish verified events

National vacancies, employer registration, job matching	**GLMIS**	**Integrate — do not rebuild**
Digital-skills courses	OMCP	**Integrate** — consume completions
Apprenticeship delivery	NAP (NYA's own)	**Build** — this is NYA's transaction
Graduate service placement	NSA	**Integrate**
Employment modules	YEA	**Integrate**
Entrepreneurship support	NEIP / Adwumawura	**Integrate**
TVET certification	CTVET / TVETMIS	**Integrate** — never issue qualifications
Identity verification	NIA IVSP	**Use** — never create a parallel identity system
Government spend of record	GIFMIS	**Reconcile to** — never replace
Programme delivery management	Fragmented / programme-specific	**BUILD**
Field operations	Programme-specific / paper	**BUILD**
Stipend and grant disbursement control	Manual	**BUILD**
Case management, referral, grievance	Fragmented	**BUILD**
Outcome verification with evidence levels	Absent	**BUILD**
Longitudinal youth journey record (NYA programmes)	Absent	**BUILD**
Common youth-development event model	Absent	**BUILD**

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4. What NYA-YOP Is — And What It Is Not

This section replaces the positioning in v1 and is the single most important change in this revision.

4.1 The problem with the v1 position

Version 1 positioned NYA-YOP as the national cross-programme operational layer between YouthXplore and the Youth Tracker.

That position collides with reality in three ways:

1. **The Youth Tracker was announced as that layer.** Its launch describes a dashboard giving "a clear picture of the full youth ecosystem, and real-time visibility of who was receiving support", reducing duplication and improving resource coordination, fed by NYA, YEA, NEIP, NSA and partner ministries (GNA, 3 December 2025).

1. **The idea has already been recommended to MYDE, publicly.** In September 2026 IMANI recommended that the Ministry "deploy a centralized digital 'Youth Tracker' monitoring beneficiaries across state agencies, mapping progression from training through enterprise incubation, preventing duplicate enrollments and providing empirical multiplier effect data" (MyJoyOnline).

1. **It is not NYA's decision to make.** A cross-agency journey layer spanning YEA, NEIP and NSA is a ministry function. NYA cannot approve it, fund it or govern it alone.

4.2 The position this version takes

> ***NYA-YOP is the operational system that runs the National Youth Authority's programmes end to end — from application through verification, training, field delivery, disbursement and placement to a verified employment or enterprise outcome — and publishes trustworthy, real-time data into the National Youth Tracker.***

Short form: *NYA-YOP is where the Youth Tracker's data comes from.*

One line for the Minister: *It makes the Tracker true.*

4.3 Why this is the stronger claim

	v1 position	v2 position
Mandate	Requires ministry-level authority	Entirely within NYA Act 939
Approval	MYDE, possibly Cabinet	NYA Board
Relationship to Youth Tracker	Competing	Supplying
Relationship to GLMIS	Overlapping	Complementary
Relationship to MYDE harmonisation agenda	Rival initiative	Reference implementation
Time to first demonstrable value	12+ months	90 days
Risk of escalation out of NYA's hands	High	Low

4.4 Scope discipline — and the path back to the bigger prize

Phase 1 is NYA's own house: NYA's own programmes, NYA's own field officers, NYA's own outcomes.

But the architecture — the common programme lifecycle, the event model, the journey record, the outcome evidence levels, the API contracts — is deliberately built so that when MYDE chooses to extend the pattern across YEA, NEIP and NSA, the integration cost is near zero.

NYA volunteers to be the reference implementation for the Ministry's harmonisation agenda, not a competitor to it.

That is not a retreat from ambition. It is the only sequence in which the ambition survives contact with institutional reality.

4.5 The answer to "isn't this just the Youth Tracker?"

This question will be asked. The answer, verbatim:

> *"No. The Youth Tracker reports what agencies submit. NYA-YOP is what NYA submits from. Today a district officer confirms an apprentice's attendance on paper and it reaches the Tracker weeks later as a total. With NYA-YOP that same officer confirms it once, offline, on a phone, against a verified identity, and it reaches the Tracker the same day as a structured event with an audit trail. We are not building a second dashboard. We are building the thing that makes the first one worth looking at."*

4.6 What NYA-YOP will not build

Explicitly, and permanently:

- **Not** another youth opportunity marketplace — YouthXplore exists
- **Not** an employer portal, vacancy board or general job-matching engine — GLMIS exists
- **Not** a coding or course platform — OMCP exists
- **Not** a national identity system — NIA exists
- **Not** a certification authority — CTVET exists
- **Not** a financial system of record — GIFMIS exists
- **Not** a second national dashboard — the Youth Tracker exists

> ***Connect the ecosystem. Run NYA's delivery. Prove the outcome.***

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5. Stakeholder Map

5.1 Sponsor and owner

NATIONAL YOUTH AUTHORITY (NYA)

Primary operational owner and system owner. Statutory mandate to coordinate and facilitate youth empowerment activities, under the National Youth Authority Act, 2016 (Act 939) (Act text).

Needs: programme management, beneficiary management, field coordination, training operations, disbursement control, monitoring and evaluation, partner coordination, outcome tracking.

MINISTRY OF YOUTH DEVELOPMENT AND EMPOWERMENT (MYDE)

Strategic owner of the policy environment and owner of the Youth Tracker. MYDE is the customer for NYA-YOP's data output, not its operator.

Needs: national programme visibility, harmonisation, outcome intelligence, policy evidence, programme comparison, resource-allocation evidence.

5.2 Sister agencies under MYDE

Agency	Relationship	Data of interest
Youth Employment Agency (YEA)	Integration partner	Employment modules, beneficiaries, placements, employment outcomes
National Entrepreneurship and Innovation Programme (NEIP) / Adwumawura	Integration partner	Entrepreneurship training, mentorship, grant funding, supported businesses, business outcomes
National Service Authority (NSA)	Integration partner	Graduate service deployments, placement hosts, post-service pathways

The Ministry has prioritised harmonising the operations of NYA, NEIP, YEA and NSA into an "Apprenticeship to Entrepreneurship" pipeline (Ghanamma). NYA-YOP should be presented as the delivery instrument of that agenda.

5.3 Other ministries and agencies

MINISTRY OF LABOUR, JOBS AND EMPLOYMENT / LABOUR DEPARTMENT

Owner of **GLMIS**, which already provides employer registration, vacancy publication, job-seeker profiles and skills advertising, algorithmic job matching, a training-provider directory, career counselling booking, a grievance mechanism and public labour-market analytics (GLMIS).

Consequence for design: NYA-YOP does not build employer registration, vacancy posting or a general matching engine. It consumes GLMIS. Its distinct contribution is confirming that a young person NYA trained actually took the placement, and verifying whether it held at 3, 6 and 12 months.

A data-sharing agreement with the Labour Department is a Phase 1 deliverable.

MINISTRY OF COMMUNICATION, DIGITAL TECHNOLOGY AND INNOVATIONS (MOCDTI) / OMCP

Training ecosystem integration. Data of interest: enrolment, course participation, completion, skills, credentials. Also the sponsor of the National AI Strategy 2025–2035 (§28).

COMMISSION FOR TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (CTVET)

TVET standards, accredited providers, qualifications, assessments, certifications, competency pathways, and the developing TVETMIS. NYA-YOP records that a credential exists and its verification reference; it never issues one.

NATIONAL IDENTIFICATION AUTHORITY (NIA)

Identity verification through the Identity Verification Service Platform. NYA-YOP stores the minimum verification reference and result — never a parallel identity repository. See §13.

5.4 Regulators and standards bodies

These are constraints on the design, not integration partners.

Body	Instrument	Constraint
Data Protection Commission	Data Protection Act 2012 (Act 843); Data Protection Bill 2025 pending	Controller registration, privacy principles, data-subject rights
Cyber Security Authority	Cybersecurity Act 2020 (Act 1038), CII Directive	Possible CII designation; all security vendors must hold a CSA licence
NITA	Ghana e-Government Interoperability Framework; Government Enterprise Architecture	API standards; hosting and cloud regulation
Ghana Statistical Service	Labour force survey definitions	Outcome definitions must reconcile to GSS definitions
Public Procurement Authority	Act 663 as amended by Act 914; GHANEPS	Procurement method and platform

5.5 Delivery-side stakeholders

- **Training centres** — YLSTIs and approved centres
- **Master craftspersons and workplaces** — the informal-sector backbone of apprenticeship delivery
- **Employers** — placement hosts and outcome verifiers
- **Mentors**
- **Partners, NGOs and development partners**
- **Regional Coordinating Councils and MMDAs**

- **Young people themselves**

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6. Users and Roles

Executive

- Minister / Deputy Minister
- NYA CEO
- Directors
- Regional leadership

Programme management

- Programme director
- Programme manager
- M&E officer
- Finance and disbursement officer *(new — see §18)*
- Partner manager

Field delivery

- Regional youth officer
- District youth coordinator
- Field officer
- Community mobiliser
- Training-centre officer

Specialist users

- Case worker
- Safeguarding lead *(new — restricted tier, §17)*
- Career / placement officer
- Data-quality officer
- Data protection officer *(new — §38)*
- Grievance reviewer *(new — §17)*
- System administrator

External users

- Youth
- Master craftsperson / workplace supervisor *(new)*
- Employer
- Training provider
- Mentor
- Partner / NGO
- Sponsor / donor
- Approved evaluator

Segregation of duties

Three roles in the disbursement chain (maker, checker, approver) must be held by different people, and no user may hold two of them for the same programme. Conflict-of-interest declarations are recorded against selection and disbursement decisions. See §18 and §40.

PART II — PRODUCT

7. Core Modules

#	Module	Status in v2
1	Programme management	Retained
2	Beneficiary management and journey record	Retained
3	Applications and selection	Retained
4	Identity verification ladder	**New**
5	Cohorts, training and attendance	Retained
6	Field operations	Retained — highest priority
7	Workplace and master craftsperson management	**New**
8	Case management, referral and grievance	Expanded
9	Safeguarding (restricted tier)	**New**
10	**Disbursement control**	**New — highest value**
11	Placement and outcome verification	Reframed against GLMIS
12	Entrepreneurship follow-up	Retained
13	Volunteer management	Retained
14	Mentorship	Retained
15	Monitoring, evaluation and outcomes	Retained
16	Data quality	Retained
17	Evidence, audit and consent register	Expanded
18	Integration and event services	Retained
19	Notifications and low-bandwidth channels	Retained
20	Dashboards and reporting	Retained

8. Programme Management

A programme manager should be able to define a programme once, from a reusable template, and have the whole platform behave correctly for it.

8.1 Programme definition

- Programme name and type
- Objectives and outcome framework
- Target age band

- Eligibility rules
- Geography and regional/district targets
- Intake size and inclusion targets
- Application period
- Selection criteria and weighting
- Training structure
- Participation and completion rules
- **Disbursement rules** — amount, frequency, eligibility gate, payment channel, approver chain *(new)*
- **Required verification tier** — the minimum V-level for participation and for payment *(new)*
- Outcome definitions and verification methods
- Funding model and implementing partners
- Reporting requirements
- Retention rule for programme records

8.2 Programme templates

1. Apprenticeship *(NAP — the Phase 1 template)*
2. Skills training
3. Entrepreneurship
4. Employment placement
5. Internship
6. Volunteering
7. Innovation competition
8. Leadership programme
9. Agriculture programme
10. Community development programme

8.3 Programme approval

No programme may be published without: an approved outcome framework, a defined disbursement rule (or an explicit declaration that the programme involves no payment), a completed data protection screening, and a named programme owner.

---

9. Standard Programme Lifecycle

Every NYA programme uses this common lifecycle where applicable. It is the backbone of the event model (§14) and the reason cross-programme analytics are possible at all.

```
DESIGN
   ↓
APPROVAL
   ↓
PUBLISH
   ↓
APPLICATION
   ↓
SCREENING
   ↓
IDENTITY VERIFICATION        ← V0–V3 ladder, §13
   ↓
SELECTION
   ↓
ONBOARDING
   ↓
PARTICIPATION
   ↓
TRAINING
   ↓
ATTENDANCE                   ← gates disbursement, §18
   ↓
ASSESSMENT
   ↓
CERTIFICATION                ← recorded, never issued
   ↓
PLACEMENT
   ↓
EMPLOYMENT / BUSINESS / VOLUNTEERING
   ↓
FOLLOW-UP                    ← 3, 6, 12 months
   ↓
VERIFIED OUTCOME             ← evidence level A–D, §24
   ↓
PROGRAMME EVALUATION
```

Two lifecycle stages are new in v2: **identity verification** as an explicit gated stage, and **attendance** as a first-class stage because it controls money.

---

10. Beneficiary Management and the Youth Journey Record

10.1 What the record is — and is not

NYA-YOP maintains a longitudinal **Youth Journey Record** covering that person's interactions with **NYA programmes**.

It is **not** a national youth database, and it is **not** an identity. Where authorised data-sharing agreements exist, it links to interactions recorded by other institutions; it does not claim ownership of them. See §34.

10.2 What the record answers

- What NYA programmes has this young person accessed?
- Which applications succeeded, and which were declined and why?
- What is their identity verification tier?
- Which trainings were completed?

- What was their attendance, and what was paid against it?
- Which skills were acquired, and which credentials recorded?
- Did they receive mentorship, or a referral, or case support?
- Were they placed? By whom? Did it hold at 3, 6 and 12 months?
- Did they start a business? Is it still operating?
- What support is still needed?
- **At what evidence level is each of the above verified?**

10.3 Example timeline

```
2026-01-10  Registered                       V0  self-asserted
2026-01-14  Applied for apprenticeship       —
2026-01-20  Identity verified (NIA IVSP)     V3  system-verified
2026-01-24  Selected                         —
2026-02-02  Programme started                —
2026-02-28  Attendance period 1 confirmed    B   officer-verified
2026-03-05  Allowance disbursed              —   reconciled
2026-04-20  Training completed               B
2026-05-01  Assessment completed             B
2026-05-10  Credential recorded (CTVET ref)  D   system-linked
2026-05-18  Employer match (GLMIS vacancy)   —
2026-06-01  Placement started                C   employer-confirmed
2026-09-01  3-month retention confirmed      C
2026-12-01  6-month retention confirmed      C
2027-06-01  12-month outcome confirmed       C   counts toward VCR
```

Every row carries an actor, a timestamp, a source and an evidence level. That is the difference between a record and a claim.

10.4 Access

The record shows only what the viewing user is authorised to see. Safeguarding and sensitive case content sits in a restricted tier not reachable from the ordinary case list (§17). Partners see only the beneficiaries and fields their agreement covers (§26).

---

11. Applications and Selection

11.1 Application intake

Applications arrive from three channels:

1. **YouthXplore** — the primary youth-facing route, via API
2. **NYA channels** — the NAP portal at `nap.nya.gov.gh`, district office assisted registration, and paper forms collected at MMDAs
3. **Field-officer assisted registration** — offline, for young people who cannot self-serve

The same person applying through more than one channel must resolve to one record. See §13.

11.2 Screening and verification

Verification checklist:

- Identity verification tier achieved
- Age eligibility
- Location eligibility
- Programme-specific eligibility
- Duplicate check
- Supporting evidence
- Consent captured with a recorded lawful basis
- Reviewer decision with reason

11.3 Selection

- Criteria are configurable per programme and published before applications open
- Scoring is explainable — every score decomposes into its components
- **No opaque automated rejection.** A human approves every adverse decision
- Conflict-of-interest declaration is recorded for every selection panel member
- Every decision carries actor, timestamp, reason and audit record
- **Every adverse decision generates an appealable grievance route** (§17)

---

12. Cohorts, Training and Attendance

12.1 Cohorts

Cohort record: programme, centre or workplace, capacity, enrolled, active, completed, dropped out with reason, trainer assignment, schedule, assessment plan.

12.2 Attendance — a control, not a statistic

In v1 attendance was a reporting field. In v2 it is the gate on public money (§18), which changes its design requirements entirely:

- Captured offline at the point of delivery, by an identified officer or trainer
- Timestamped, and location-stamped where lawful and justified
- Against a participant at the required verification tier
- **Immutable after the disbursement gate runs.** Corrections are new records with reasons, never edits
- Anomaly detection: repeated absence, impossible attendance, duplicate marks, single-officer clustering, centre-level outliers, late submissions

12.3 Assessment and certification

Assessments are recorded; formal certification remains with the authorised certification body. NYA-YOP records the credential, the issuing body and the verification reference — never the qualification itself.

---

13. Identity: The Verification Ladder

New in v2. Version 1 asserted that the platform would link interactions "using approved identity and matching mechanisms" without designing what happens when that fails. In a programme that admits from age 15 with no minimum academic qualification (MYDE), it will fail often.

13.1 Principle

NYA-YOP issues a **Youth Reference Number (YRN)** — an internal, non-public, non-authoritative key used only to link NYA programme interactions.

It is not an identity. It is never printed on a card. It is never used as proof of anything. It confers no status and no entitlement.

13.2 The four-tier ladder

A young person can enter at any tier. The tier is recorded and constrains what the record can be used for.

Tier	Method	What it permits
V0 — Self-asserted	Name, date of birth, phone, district	Registration and expression of interest only. **Cannot receive any payment**
V1 — Officer-attested	District or field officer confirms in person and records evidence	Participation in non-cash programmes
V2 — Document-checked	Ghana Card number captured and format-validated, or an approved alternative document	Provisional payment eligibility, time-limited, subject to upgrade
V3 — NIA-verified	Verified through the NIA Identity Verification Service Platform	Full eligibility, including stipend and grant disbursement

13.3 Store the result, not the document

Retain: the verification reference, the tier, the timestamp, the verifying officer, and the result.

Do not retain scanned identity documents beyond a short defined window, and never as the system of record. This is both a data-minimisation obligation under Act 843 and a direct reduction of breach impact.

13.4 Deduplication

- **Deterministic match** on a verified NIA reference — safe to link automatically
- **Probabilistic match** on name, date of birth, phone, district and guardian name — produces a *candidate* only, requiring human adjudication
- **Automatic merging is prohibited**
- Every merge is reversible, audited, and notifiable to the data subject
- Merge decisions are appealable

13.5 The no-card path is a feature, not an exception

A meaningful share of 15–24 year olds in rural districts will not hold a Ghana Card at enrolment. Two design consequences:

1. **V1 is a first-class path**, not a failure state, with an explicit route to V3.
2. **"Assisted Ghana Card acquisition" is a standard case category** (§17). This converts a blocker into a service NYA visibly provides — and produces a measurable outcome of its own.

13.6 Cost and dependency

NIA charges for verification per hit, plus per-device configuration and annual licence fees (NIA fee schedule, January 2026).

At NAP's 2026 target of 100,000 apprentices this is a material recurring cost line. **Current per-hit rates must be obtained from NIA in writing before any costing is finalised** — this is an open blocker, recorded in §53.

The ladder is also the resilience design: if the NIA service is unavailable, the platform degrades to V1/V2 and continues operating, rather than stopping.

---

14. Event Model

Interoperability is event-based rather than dependent on large periodic database exports.

14.1 Event catalogue

```
IDENTITY & INTAKE          DELIVERY
  PersonRegistered           ProgrammeStarted
  IdentityTierChanged        TrainingAttended
  ApplicationSubmitted       AttendancePeriodClosed
  ApplicationVerified        TrainingCompleted
  ApplicationDeclined        AssessmentCompleted
  Selected                   CredentialRecorded
  Waitlisted                 ParticipationEnded

MONEY                      OUTCOMES
  DisbursementGateEvaluated  PlacementMatched
  PaymentApproved            PlacementStarted
  PaymentInstructed          RetentionConfirmed
  PaymentReconciled          EmploymentConfirmed
  PaymentExceptionRaised     BusinessCreated
  RecoveryInitiated          VolunteerHoursCompleted
                             FollowUpCompleted
SUPPORT                      OutcomeRecorded
  CaseOpened                 OutcomeVerified
  ReferralCreated
  MentorshipStarted          GOVERNANCE
  GrievanceRaised            ConsentCaptured
  GrievanceResolved          ConsentWithdrawn
  SafeguardingConcernRaised  RecordsMerged
                             RecordsUnmerged
```

14.2 Event envelope

Every event carries:

- Event ID and event type
- Event version
- Timestamp (occurrence) and timestamp (recording) — these differ for offline capture
- Source organisation and source system
- Programme reference
- Person reference (pseudonymous where the consumer is not authorised to identify)
- Location, at the coarsest granularity that serves the purpose
- Actor — human or system
- Verification status and evidence level
- Consent reference and lawful basis
- Metadata

- Audit information

14.3 Offline semantics

Field capture means occurrence time and recording time diverge, sometimes by days. Every consumer of the event stream must handle late-arriving events. Attendance and disbursement logic uses **occurrence time**; audit and sync monitoring uses **recording time**. Getting this wrong silently corrupts every attendance-based payment.

---

15. Field Operations

This is the highest-value operational component, and the one that no other system in the ecosystem provides.

15.1 Field officer workflow

```
Today's Tasks
      ↓
Beneficiaries to Verify
      ↓
Training Centres / Workplaces to Visit
      ↓
Attendance to Confirm
      ↓
Cases to Follow Up
      ↓
Employer / Placement Visits
      ↓
Evidence Capture
      ↓
Offline Queue
      ↓
Synchronise
```

15.2 Offline capability

- Beneficiary lookup against locally cached authorised records
- Registration and identity capture at V0–V2
- Attendance
- Centre and workplace inspections
- Surveys
- Case notes
- Evidence capture (photo, document, signature)
- Location capture where lawful and justified — treated as personal data (§38)
- Timestamping of both occurrence and recording
- Queued submission
- **Conflict detection and a designed resolution workflow** — v1 promised a "view conflict" action without specifying what happens next
- Sync when connectivity returns

15.3 Device and connectivity reality

Field operations imply a device estate, not just an app. Devices, data bundles, charging, replacement, loss policy, insurance, mobile device management and a helpdesk are recurring costs that frequently exceed the software cost (§49).

NYA's published field structure is 10 regional offices and 81 district offices, with new offices secured in a further 120 districts, and 11 Youth Leadership & Skills Training Institutes (NYA). Ghana has 16 regions and 261 assemblies, so this figure needs confirming directly — it is the single most important input to the field business case, and is recorded as an open question in §65.

15.4 The adoption test

If the app adds net work per beneficiary compared with paper, it will not be used, whatever the mandate says.

A time-and-motion study in discovery must establish current time per verification, per attendance register and per case note. The platform's target is to reduce it. The **Officer Workload & Time** view (§25) exists to detect adoption failure early rather than at the end of the pilot.

---

16. Training Centres, Workplaces and Master Craftspersons

Substantially new in v2. The National Apprenticeship Programme is 30% classroom instruction and 70% hands-on workplace learning under qualified trainers and master craftspersons (MYDE). Version 1 had no entity for the workplace or the master craftsperson at all — which meant the model could not represent 70% of NAP delivery.

16.1 Training centre portal

Manages: cohorts, trainers, trainee rosters, attendance, schedules, equipment, facilities, assessments, completion, dropout with reason, referrals, safeguarding incidents, centre inspections.

16.2 Workplace and master craftsperson registry

Ghana's apprenticeship system runs through informal workshops. The platform must represent them as first-class entities or it cannot manage NAP.

Master craftsperson record:

- Trade and specialisms
- Accreditation status and CTVET/NAP registration reference
- Associated workplace
- Apprentice capacity, and current apprentices
- Safeguarding clearance status — mandatory where apprentices are under 18
- Training received (where the programme trains the trainer)
- Payment status, where the programme pays master craftspersons
- Inspection and complaint history

Workplace record:

- Type: informal shop, firm, training centre, public institution
- Location
- Trade
- Responsible person

- Safety and suitability inspection record
- Apprentice slots and utilisation
- Verification history

16.3 Placement agreement

A tripartite record — young person, workplace or employer, and NYA — capturing start date, duration, obligations on each side, stipend terms, and termination reason if it ends early. This is the document that makes a placement a fact rather than an intention.

16.4 Certification boundary

The platform integrates with formal certification systems. It does not issue national qualifications and never will.

---

17. Case Management, Referral, Grievance and Safeguarding

Not every barrier a young person faces can be solved by an automated recommendation. Three distinct workflows sit here, and v1 conflated them.

17.1 Case management

```
Issue identified
      ↓
Needs assessment
      ↓
Case opened
      ↓
Support plan
      ↓
Referral
      ↓
Service delivered
      ↓
Follow-up
      ↓
Resolved / Escalated / Closed
```

Case categories:

- Employment barrier
- Training barrier
- Disability and accessibility
- **Documentation and identity support — including assisted Ghana Card acquisition** *(new, see §13.5)*
- Financial difficulty
- Business support
- Psychosocial referral
- Education pathway
- Mentorship
- Housing or transport participation barrier

17.2 Grievance and redress

New in v2. The platform makes adverse decisions: rejected applications, failed verifications, withheld stipends, terminated placements, merged records. A young person needs a route to challenge each of them. GLMIS already provides a grievance mechanism (GLMIS); a delivery platform that does not is both unfair and legally exposed under Act 843's data-subject participation principle.

Grievance record: subject, the decision being challenged, channel of receipt, received date, SLA due date, assigned reviewer, outcome, appeal stage, closure evidence.

Design rules:

- Every adverse decision screen offers the appeal route directly
- Grievance channels include in-person at a district office, phone, SMS and USSD — not only the app
- The reviewer must be someone other than the original decision-maker
- SLA breaches are visible on the district and regional dashboards
- Grievance volume by decision type is a **data-quality signal**, not just a service metric — a spike in appeals against verification failures usually means the verification process is broken

17.3 Safeguarding — a restricted tier, not a case category

New in v2. Version 1 listed safeguarding as one of eleven case types. NAP admits from age 15 (MYDE), which places minors in informal workplaces. That requires:

- A **separate access tier**, not reachable from the ordinary case list, with its own named role and its own audit trail
- A **minor flag** on the person record, driving parental or guardian consent handling
- A **mandatory-reporting workflow** with defined escalation to the safeguarding lead and, where required, to external authorities
- **Distinct retention rules**
- **Trained officers only** — access gated on completed safeguarding training
- A **safeguarding policy annex** to this blueprint, drafted with NYA's legal and social-welfare advisers before any deployment involving under-18s

Sensitive case data has stricter access controls than any other data in the system, including executive data.

---

18. Disbursement Control

New in v2. This is the highest-value module in the platform, and version 1 did not contain it.

18.1 Why it belongs here

- **NAP** pays monthly allowances during training and start-up capital on completion (Graphic), against a 2026 enrolment target of 100,000.
- **Adwumawura** disbursed grants to 3,212 beneficiaries selected from 10,887 trained in the 2025 cohort (B&FT).

Version 1 had two events — `FundingApproved` and `FundingDisbursed` — and one line about "funding milestone validation". No module, no screens, no controls, no reconciliation.

Every other module in this blueprint is a cost. This one is a saving with a number attached.

18.2 The control chain

```
Programme disbursement rule
  e.g. NAP monthly allowance, payable where verified
  attendance >= 80% of scheduled days in the period
        ↓
Attendance captured in the field
  offline-capable, timestamped, officer-attributed,
  against a participant at the required verification tier
        ↓
Automated eligibility gate
  pass / fail / exception, each with a recorded reason
        ↓
Exception queue
  impossible attendance, duplicate marks, single-officer
  clustering, centre-level outliers, late submissions
        ↓
Maker → Checker → Approver
  three named roles, no user holding two,
  conflict-of-interest declaration recorded
        ↓
Payment instruction file
  to the paying channel (mobile money / bank / GhIPSS),
  with a per-beneficiary reference
        ↓
Reconciliation
  paid / failed / returned, matched back per beneficiary
        ↓
GIFMIS reconciliation
  programme spend agrees to the government financial system
        ↓
Exception and recovery
  overpayment, ghost detection, clawback, referral
```

18.3 Controls stated explicitly

- **No payment above verification tier V1. No cash-equivalent payment below V3.**
- Attendance is immutable once the gate has run. Corrections are new records with reasons.
- Any officer whose attendance submissions produce a statistical outlier is automatically sampled for random re-verification.
- A defined percentage of paid beneficiaries is independently re-verified each cycle, by an officer other than the one who enrolled them.
- Every adverse gate result is appealable through the grievance workflow (§17.2).
- Payment instruction files are generated by the system, not assembled by hand.
- Reconciliation is mandatory before the next cycle can run.

18.4 Screens required

1. **Disbursement Run** — period, eligible/ineligible counts, exception queue, maker-checker-approver states, payment file status
2. **Payment Exception** — beneficiary, gate failure reason, evidence, decision, appeal link
3. **Reconciliation** — instructed vs paid vs failed vs returned, ageing of unresolved items
4. **Recovery** — overpayments, clawback status, referrals

18.5 How to present it

> *"At 100,000 apprentices on monthly allowances, the platform pays for itself if it prevents leakage of a low single-digit percentage of disbursements."*

This must be presented as a sensitivity, never as a finding. No leakage rate for these programmes is published, and asserting one would be fabricating evidence. The honest framing is: *we do not know what the leakage is, and today there is no mechanism that could tell us. That is itself the argument.* **[estimate]**

---

19. Placement and Outcome Verification

19.1 What changed from v1

Version 1 proposed an employer portal, a talent-request workflow and a candidate-matching engine. GLMIS already provides employer registration, vacancy publication, job-seeker profiles and algorithmic matching nationally, and government has stated it is intended as the single national hub for job openings (GBC).

Those modules are removed. What remains is what only NYA can do.

19.2 The NYA contribution

```
GLMIS vacancy
      +
NYA programme completer
  with verified training, assessed skills and a field officer
  who knows the candidate
      ↓
Shortlist — explainable, human-reviewed
      ↓
Interview
      ↓
Placement agreement recorded
      ↓
Placement start CONFIRMED by employer or master craftsperson
      ↓
3-month retention verified
      ↓
6-month retention verified
      ↓
12-month outcome verified   ← counts toward the north-star metric
```

Shortlisting must be explainable — every ranking decomposes into named factors — and subject to human oversight. No opaque automated decisions, and no automated rejection.

19.3 Outcome verification and evidence levels

Not all outcomes are equally reliable. The platform records the evidence level of every outcome, and reports them separately.

Level	Definition	Example
A — Self-reported	The young person reports the outcome	Survey response: "I am working"
B — Programme verified	An NYA officer confirms	Field officer visits and confirms

C — Third-party verified	Employer, training provider, master craftsperson or partner confirms	Employer confirms retention at 6 months
D — System-linked	Confirmed through an authorised integration	Credential confirmed via CTVET; placement confirmed via an authorised data exchange

Headline outcome figures report levels C and D only. Level A and B figures are shown separately and clearly labelled. This is the single control that prevents inflated success statistics — and it is the reason an NYA-YOP number can be defended in front of Parliament, IMANI or a development partner.

---

20. Entrepreneurship Tracking

```
Idea → Training → Mentorship → Business registration → Funding →
Launch → Customers → Revenue → Jobs created → Survival → Growth
```

Outcome fields: business status, sector, location, employees, revenue band, funding received, assets acquired, market access, customers, survival at 3/6/12/24 months, jobs created, founder income band.

Data minimisation applies with force here. Financial information about a young person's business is sensitive, commercially and personally. Collect revenue and income as **bands, not exact figures**, collect only where a specific programme obligation requires it, and record the lawful basis for each field. Do not collect it "for analytics".

Where NEIP/Adwumawura is the delivering agency, NEIP remains the source of truth for its own programme transactions (§34).

---

21. Volunteer Management

For NYVP and related programmes: volunteer registration, eligibility, placement, host organisation, module, attendance, hours, supervisor, activity, community impact, certificate or recognition, and post-volunteer pathway.

The purpose is to turn volunteering into **measurable experience with a destination**, rather than a participation statistic. A volunteer record that never connects to a subsequent employment, education or enterprise outcome has not been completed.

---

22. Mentorship

Mentor register, mentor-mentee relationships, goals, session records, progress, overdue sessions, and outcomes.

Mentors working with under-18s require safeguarding clearance recorded against their profile (§17.3).

---

23. Monitoring and Evaluation

23.1 From activity to outcome

Level 1 — Reach: registrations, applicants, selected youth, demographic and geographic distribution.

Level 2 — Participation: attendance, engagement, training completion, mentorship participation.

Level 3 — Outputs: certifications, apprenticeships completed, internships, placements, businesses launched, volunteer hours.

Level 4 — Outcomes: employment, income change, business survival, jobs created, skills utilisation, sustained volunteering, career progression.

Level 5 — Impact: economic independence, resilience, social participation, productivity, regional inclusion, contribution to national development.

23.2 Alignment with the Ministry's own M&E arrangements

MYDE's MTDP commits to Participatory Monitoring and Evaluation through the Youth Sector Working Group, with mid-term and end-of-term evaluation, and explicitly to "leveraging and strengthening existing systems such as the GIFMIS" (MTDP, ch. 7).

Consequence for design: NYA-YOP does not create a parallel M&E regime. It supplies the Ministry's existing one with better data, on the Ministry's reporting cycle, and reconciles its cost figures to GIFMIS rather than to an internal finance module.

23.3 Indicator definitions

All employment, unemployment and NEET definitions follow **Ghana Statistical Service** definitions. Where NYA-YOP reports a figure that differs from a GSS figure, the difference must be explicable by a stated methodological reason. Numbers that cannot be reconciled to the national statistics will be contested, and rightly.

---

24. Data Quality

A measurable **Data Quality Score** across six dimensions: completeness, accuracy, timeliness, uniqueness, consistency, validity.

```
District A
Completeness    94%
Accuracy        91%
Timeliness      88%
Uniqueness      97%
Validity        91%

Overall          92%
```

Design rules:

- Poor data is visible to the manager responsible for it, not buried in an analytics report
- Data quality is scored at district, centre, programme and officer level
- Duplicate candidates surface as adjudication tasks with evidence, never as auto-merges (§13.4)
- Every merge is reversible and audited
- Data quality trends are reported alongside performance — a region whose performance improves while its data quality falls is flagged, not congratulated

---

25. Dashboards

25.1 Executive — national overview

Cards: youth reached · active participants · completion rate · placement rate · verified employment · active businesses · volunteer hours · **verified conversion rate** · **outcome verification rate**.

Regional map: participation, completion, employment, programme performance, underserved districts, data-quality gaps.

Programme health table and a **bottleneck panel** naming the specific constraint, e.g. "Northern Region: verification backlog rising", "Programme X: dropout concentrated after month 2", "Sector Z: employer demand exceeds qualified candidates".

Every figure carries its filter, date range and evidence level. A number without those three things is not shown.

25.2 Programme manager

Today: applications requiring review · verifications pending · attendance anomalies · **disbursement exceptions** · cases due · follow-ups due · grievances approaching SLA · partner reports overdue.

Programme funnel — applicants → verified → selected → started → completed → placed → outcome confirmed. This makes programme leakage visible, which is the point.

25.3 Regional

District comparison · programme participation · centre and workplace performance · field task load · unresolved cases · grievance SLA breaches · verification backlog · attendance · dropout · outcome status · data-quality score.

25.4 District — operational only

> ***"What must I do today?"***
> *18 beneficiaries to verify · 3 centre inspections due · 12 attendance exceptions · 7 follow-ups overdue · 4 placements awaiting confirmation · 2 safeguarding cases requiring escalation*

25.5 Officer workload and time

New in v2. Tasks per officer per day, and time per task type, trended. This is the adoption early-warning system: if time per verification is not falling, the platform is failing regardless of what the completion charts say.

25.6 Partner

Partners see only what their agreement authorises: programme dashboard, agreed KPIs, aggregate beneficiary progress, disbursement-linked milestones, implementation status, outcome reporting, evidence, reports, data-quality alerts.

Partners do not automatically see the youth record.

25.7 Integration reconciliation

New in v2. Records sent, accepted and rejected per partner system, with unresolved differences ageing. Without this, integration failures are discovered by an executive noticing a number looks wrong.

26. Notifications and Low-Bandwidth Channels

Channels: in-app · SMS · email · WhatsApp where institutionally approved · USSD · voice/IVR where justified.

Notifications are event-driven: application verified, selection confirmed, training starts tomorrow, attendance missing, **payment approved**, **payment failed**, assessment available, placement opportunity, follow-up due, outcome survey, **grievance response due**.

26.1 USSD

```
*XXX#
1. My applications
2. Programme status
3. Training schedule
4. Payment status
5. Placement status
6. Update phone
7. Request support
8. Report a problem
```

USSD exposes simple transactional functions, not the platform.

It is not free. Short codes and aggregator fees are recurring operational costs negotiated with telecommunications operators. USSD is a **Phase 2 decision with a named cost** (§49), not an aspiration.

---

27. Accessibility and Inclusion

Design for: low literacy · persons with disabilities · screen readers · large text · high contrast · keyboard navigation · local-language support where justified · voice assistance · low-bandwidth conditions · shared-device scenarios.

Field interfaces minimise typing.

Accessibility is tested with actual users, with a named budget line and a testing plan, not treated as a compliance checkbox. Equity dimensions — sex, age band, disability, region, urban/rural — are reported using only attributes that are necessary, lawful, ethically appropriate and adequately protected.

---

28. AI Architecture

AI assists people. It is never the system of record, and it never makes an adverse decision.

28.1 Alignment with national policy

Ghana launched its **National AI Strategy 2025–2035** on 24 April 2026, with pillars including data access and governance, empowering youth for jobs of the future, and AI adoption in the public sector, supported by a National AI Fund of GH¢5 billion for 2025–2030 (MoCDTI, Citi News).

NYA-YOP's AI design is deliberately consistent with that strategy's human-centred framing — and the Fund is a candidate co-financing route (§50).

28.2 Officer AI

Prioritise overdue tasks · summarise case history · identify dropout risk · flag attendance anomalies · recommend follow-up actions · summarise programme performance · identify missing data.

All recommendations are advisory and must show their reasoning.

28.3 Executive AI

Answers questions such as:

> *"Which programmes are producing the strongest verified employment outcomes?"*
> *"Which regions have the largest verification backlog?"*
> *"Where are young women underrepresented?"*
> *"Which training areas have high completion but low placement?"*

Every AI response must show: source data, date range, evidence levels included, confidence and limitations, definitions used, and links to the underlying records where the user is authorised to see them.

28.4 Hard limits

- No fully automated adverse decisions — ever
- No opaque scoring in selection, matching or disbursement
- AI may flag suspicious patterns for investigation; a human decides
- Model outputs are never written into the record of truth as facts

---

29. Next Best Action

Do not present a young person with a hundred opportunities. Present one next step.

Audience	Example
Youth	"You completed digital training. Your next step is to apply for these three verified placement pathways."
Field officer	"12 follow-ups are due today. Three participants have repeated absences and are at elevated dropout risk."
Programme manager	"Dropout increased 18% in Cohort B. Review attendance and transport barriers."
Executive	"Programme completion is strong, but placement is the bottleneck in three regions."

PART III — DATA, TECHNOLOGY AND COMPLIANCE

30. Data Architecture

Principle: avoid one enormous youth table. Use a longitudinal domain model.

```
Person (YRN)
  ├── IdentityVerifications
  ├── Consents
  ├── Applications
  ├── Participations
  ├── Attendance
  ├── Skills
  ├── Credentials
  ├── Disbursements
  ├── Mentorship
  ├── Placements
  ├── Employment
  ├── Businesses
  ├── Volunteer Activities
  ├── Cases
  ├── Referrals
  ├── Grievances
  ├── SafeguardingConcerns   [restricted tier]
  ├── Surveys
  └── Outcomes
```

Separate operational and analytical workloads. The operational database serves applications, beneficiaries, attendance, cases, disbursement and workflow. The analytics warehouse serves trends, cohort analysis, regional comparison, outcome analysis, longitudinal journeys and executive reporting. Object storage holds documents, evidence and approved analytical datasets — with retention rules applied at the object level.

31. Logical Data Model

Core entities

```
Person                  Programme               Application
Organisation            Opportunity             Participation
Location                Cohort                  Attendance
Partner                 Training                Assessment
                        Skill                   Credential
```

Delivery entities

```
TrainingCentre          MasterCraftsperson  ← new
Workplace           ← new
PlacementAgreement  ← new
Employer                Job                     Placement
Mentor                  Business                VolunteerActivity
```

Money entities — all new in v2

```
DisbursementSchedule    programme payment rules: amount, frequency,
                        eligibility gate, payment channel, approver chain

PaymentInstruction      beneficiary, period, gross amount, gate result,
                        maker, checker, approver, channel reference,
                        reconciliation status, exception flag

Recovery                overpayment, reason, amount, status, referral
```

Support and governance entities

```
Case                    Referral                Survey
Grievance           ← new
SafeguardingConcern ← new (restricted tier)
ConsentRecord       ← new
IdentityResolution  ← new
Outcome                 Evidence                Event
AuditRecord             DataQualityScore
```

Selected field definitions

Person

- `person_id` (YRN — internal, non-authoritative)
- `identity_verification_tier` (V0–V3)
- `identity_reference` (NIA verification reference — result only, never document image)
- date of birth or age band, as the purpose requires
- `is_minor` flag, driving guardian consent and safeguarding rules
- sex, where necessary and lawful
- disability and accessibility attributes, where justified
- location
- contact channels
- consent and privacy metadata

ConsentRecord

- data subject, purpose, lawful basis
- privacy notice version
- capture method — in person / app / USSD / assisted, with a witness where read aloud
- timestamp captured, timestamp withdrawn

Outcome

- `outcome_id`, person, programme
- outcome type
- measurement date
- **evidence level (A/B/C/D)**
- verification method and verifier
- evidence reference

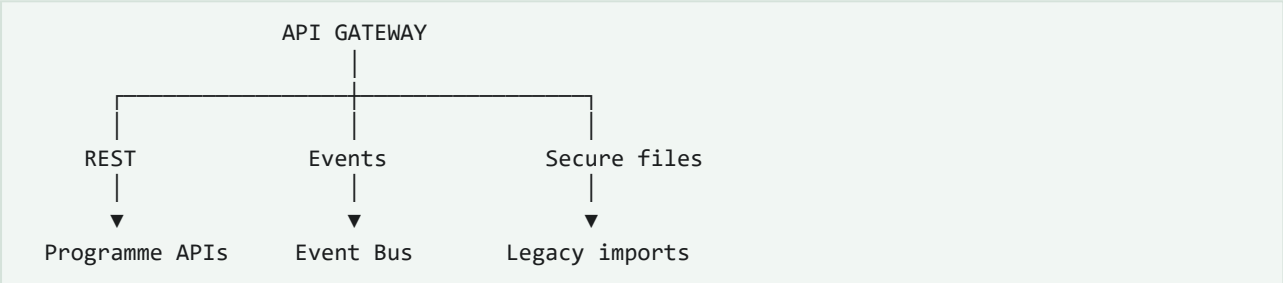
PaymentInstruction

- as above, plus the full maker-checker-approver chain and reconciliation state

---

32. Interoperability Architecture

32.1 Gateway



All API and integration design conforms to NITA's **Ghana e-Government Interoperability Framework** and the **Ghana Government Enterprise Architecture** (NITA e-GIF). NYA-YOP does not invent government integration standards.

32.2 Integration priorities, in dependency order

Phase 1 — the critical path

1. **NIA Identity Verification Service Platform** — gates everything downstream, so it goes first
2. **YouthXplore** — application intake
3. **NYA's own systems**, including the existing NAP registration portal at `nap.nya.gov.gh`
4. **Payment channel** — mobile money / bank / GhIPSS, for disbursement
5. **Youth Tracker** — the outbound event feed

Phase 2

1. **GLMIS** — consume vacancies and employer records
2. **OMCP** — training and completion records
3. **YEA**
4. **NEIP / Adwumawura**
5. **GIFMIS reconciliation**

Phase 3

1. **CTVET / TVETMIS** — when TVETMIS is ready to expose data
2. **NSA**
3. Additional MDAs, approved private-sector partners, employers, training providers, development partners

Rule: never place another institution's readiness on your critical path. Every Phase 2 and 3 integration must have a manual fallback so that a partner's delay degrades a feature rather than stopping the programme.

---

33. API Principles

Every integration defines: ownership · source of truth · field definitions · identifier mapping · authentication · authorisation · data minimisation · versioning · error handling · retry strategy · reconciliation · auditability · SLA · incident process · **exit and data-return terms**.

Conceptual endpoints

```
POST /v1/programmes/{programmeId}/participants
GET  /v1/persons/{personId}/journey
GET  /v1/persons/{personId}/verification
POST /v1/attendance
POST /v1/disbursements/runs/{runId}/instructions
POST /v1/placements
POST /v1/outcomes
GET  /v1/programmes/{programmeId}/metrics
POST /v1/events
GET  /v1/reconciliation/{partnerId}
```

These are conceptual. Final contracts are agreed with each participating institution and registered under NITA's interoperability standards.

---

34. Source-of-Truth Strategy

No institution is asked to surrender its existing system.

```
NIA           owns identity
CTVET         owns formal TVET qualification records
OMCP          owns course and training records
GLMIS         owns vacancies and employer records
YEA           owns its employment-service transactions
NEIP          owns its entrepreneurship-programme transactions
NSA           owns its service deployment records
GIFMIS        owns government spend
GSS           owns national labour-market statistics

NYA-YOP       owns NYA's operational transactions:
              applications, verifications, participation, attendance,
              disbursement, cases, placements confirmed by NYA,
              and outcome verifications performed by NYA

Youth Tracker consumes approved intelligence feeds
```

This is a **federated ecosystem, not a giant replacement database**.

> ***Each institution remains accountable for the data it originates, while the interoperability layer enables authorised exchange.***

---

35. Technical Architecture

```
Web Applications  (HQ, programme, regional, partner)
Mobile / PWA      (field, offline-first)
USSD / SMS / IVR  (youth, low-bandwidth)
        │
        ▼
API Gateway
        │
Authentication / IAM
        │
Application Services
        ├── Programme Service
        ├── Beneficiary & Identity Service
        ├── Application & Selection Service
        ├── Training & Attendance Service
        ├── Disbursement Service        ← new
        ├── Case, Grievance & Safeguarding Service
        ├── Placement & Outcome Service
        ├── Business Service
        ├── Volunteer Service
        ├── M&E Service
        └── Notification Service
        │
        ▼
Event Bus
        │
Operational Database
        │
Analytics Warehouse
        │
BI / Executive Dashboard
        │
Integration Layer
```

35.1 Modular, not monolithic

Domain modules with clear ownership, APIs, event contracts, independent scaling, shared identity, central audit and central observability.

A modular monolith is the appropriate first implementation. Microservices are introduced only where scale or organisational boundaries justify them — not as an architectural default. A distributed system built by a small team on a fixed budget is a delivery risk, not a sophistication.

---

36. Build Versus Adapt

New in v2. Version 1 assumed a bespoke build without evaluating alternatives. Any competent procurement evaluation will ask why, and "we did not look" is not an answer.

Option	What it is	Strengths	Weaknesses	Cost profile [estimate]

A. Bespoke build	Custom platform, as v1 assumed	Exact fit; full roadmap control	Slowest to first value; highest cost; highest key-person and vendor risk; longest security-assurance path	Highest capex, moderate opex
B. Adapt a digital public good	DHIS2 Tracker configured for youth programme delivery — mature individual-beneficiary tracking, strong offline Android capture, deployed in 80+ countries (DHIS2)	Fastest to a working field pilot; free licence; proven offline sync; large implementer pool; familiar to development partners	Health-sector data model needs real adaptation; disbursement control and placement workflows need custom modules; some v1 screens are not achievable as drawn	Lowest capex, moderate opex
C. Hybrid	Adapt a digital public good for the beneficiary, field and attendance core; build bespoke only for Disbursement Control, Placement & Outcome Verification, and the executive layer	Fast field pilot; bespoke spend concentrated on the module with financial return; smallest custom surface to secure and maintain	Two stacks to integrate and support; needs a clearly defined seam	Middle capex, moderate opex

Recommendation: Option C.

It de-risks the hardest part (field operations under poor connectivity), it concentrates custom development where the money is, and it is defensible in a procurement evaluation. The World Bank's CORE-MIS, designed to be adapted for social-protection delivery, is a further reference point (World Bank GovTech).

The final decision is a Phase 1 discovery output, taken on evidence rather than asserted here.

---

37. Security Architecture

37.1 Legal basis — this is a statutory obligation, not good practice

The **Cybersecurity Act, 2020 (Act 1038)** establishes the Cyber Security Authority, which regulates owners of Critical Information Infrastructure and licenses cybersecurity service providers, establishments and professionals (Act 1038 summary; CSA CII Directive).

Enforcement is active and current:

- From **31 January 2026**, unlicensed cybersecurity service providers, establishments and professionals face sanctions (TechAfrica)
- In **August 2026** the CSA fined EY Ghana **GH¢360,000** for providing cybersecurity services without a licence (TechAfrica)

Programme requirements:

1. Seek a **CSA determination** on whether NYA-YOP constitutes Critical Information Infrastructure — in Phase 1 discovery, not after build. A platform holding longitudinal records on hundreds of thousands of young people and integrated with national identity verification is a strong candidate.
2. **Every** penetration test, security audit, SOC or assurance vendor engaged on this programme must evidence a current CSA licence as a condition precedent in contract.
3. Comply with the CII Directive's baseline requirements if designated.

37.2 Layers

```
Identity → Authentication → Authorisation → Application security →
API security → Database security → Infrastructure security →
Monitoring / SIEM
```

37.3 Controls

MFA for all privileged users · RBAC and ABAC · privileged access management · API authentication and rate limiting · WAF · secrets management · encryption in transit and at rest · backup and disaster recovery with tested restore · **immutable audit logs** · vulnerability scanning · penetration testing by a CSA-licensed provider · continuous security monitoring · defined incident response with regulator notification paths.

Restricted-tier controls for safeguarding and sensitive case data: separate authorisation, separate audit trail, access logged and reviewed.

---

38. Data Governance and Privacy

38.1 The legal position, accurately stated

Today: the Data Protection Act, 2012 (Act 843) is operative. It establishes principles of accountability, lawfulness, purpose specification, purpose limitation, openness, security safeguards and data-subject participation.

Coming: the **Data Protection Bill 2025** proposes to repeal and replace Act 843. It converts the Data Protection Commission into a **Data Protection Authority** headed by a Director-General, and broadens the definition of personal data to include biometric information, indirect identifiers such as location data and voice recordings, online identifiers including IP addresses and cookies, and pseudonymised data (Sustineri, B&FT). As at March 2026 the Bill was still being prepared for introduction to Parliament.

38.2 Design to the Bill, not only the Act

The field module captures **GPS traces, photographic evidence and voice notes**. Under Act 843 their status is arguable. Under the 2025 Bill they are explicitly personal data.

Treat all three as personal data from day one, and budget a compliance re-baseline at the point of enactment (§53). Building to the current Act alone guarantees non-compliance mid-build.

38.3 Registration

NYA must be registered with the regulator as a data controller before pilot go-live, and any processor registered as required. Government has signalled a directive for the Commission to impose fines on organisations that have not registered under Act 843.

38.4 Core controls

Data minimisation · purpose limitation · lawful processing with a recorded basis per purpose · consent management where consent is the basis · role-based access · least privilege · encryption in transit and at rest · audit logs · retention policies · deletion workflows · correction workflows · data-quality controls · breach response · privacy impact assessment · vendor security requirements.

38.5 Consent, designed rather than mentioned

New in v2. Version 1 referenced "consent/legal basis where applicable" on events without designing the mechanism.

- A **ConsentRecord** per person, per purpose, with the lawful basis stated
- **Versioned privacy notices** — English plus at least two widely spoken Ghanaian languages, plus a read-aloud script for low-literacy enrolment, with the witnessing officer recorded
- **Capture method recorded** — in person, app, USSD, or assisted
- **Withdrawal workflow**, with a defined consequence for each purpose
- **Guardian consent** for under-18s, linked to the `is_minor` flag
- Consent is not the lawful basis for everything. Where processing is necessary for a public task, say so and record it — asking for consent you will not honour a refusal of is worse than not asking.

38.6 Compliance deliverables

Deliverable	When
Data Protection Impact Assessment	Phase 1 discovery
Records of Processing	Phase 1
Data Sharing Agreement — MYDE / Youth Tracker	Phase 1, before build
Data Sharing Agreement — Labour Department / GLMIS	Phase 1, before build
Data Sharing Agreements — each further integrating institution	Before each integration
Privacy notices, multilingual, with read-aloud script	Before first enrolment
Retention and Disposal Schedule	Before go-live
Breach Response Plan	Before go-live
CSA determination on CII status	Phase 1
Penetration test by a CSA-licensed provider	Before go-live
Safeguarding policy annex	Before any under-18 enrolment

---

39. Hosting, Residency and Infrastructure

New in v2. Where this system runs is a policy question, a cost question and a procurement question — and v1 answered none of them.

NITA is the ICT policy implementing arm and regulator of the data centre and cloud market in Ghana, and owns the government's interoperability and enterprise architecture standards (NITA, Smart Africa / NITA data centre and cloud framework).

Decisions required in Phase 1:

Question	Options	Owner
Where does production run?	NITA government data centre / commercial Ghanaian data centre / cloud	NYA ICT with NITA

Data residency requirement	In-country only, or permitted foreign processing with safeguards	NYA DPO with DPC guidance
Backup and disaster recovery location		NYA ICT
Environment separation	Production / staging / training / development	Delivery partner
Who holds the keys		NYA, not the vendor

Non-negotiable: NYA holds the accounts, the domains, the certificates and the encryption keys. A platform whose infrastructure is owned by its vendor is not government-owned regardless of what the contract says about data.

---

40. Fraud and Integrity Controls

Programme leakage is a serious operational and fiduciary risk, and it is the risk with a number attached.

Controls:

- Duplicate detection with human adjudication (§13.4)
- Identity verification tiers gating participation and payment (§13.2)
- Eligibility validation at application and at each disbursement gate
- Anomaly detection on attendance — impossible attendance, duplicate marks, officer clustering, centre-level outliers
- Independent random re-verification of a defined percentage of paid beneficiaries each cycle
- Employer and master-craftsperson confirmation of placements
- Maker-checker-approver separation on all disbursement (§18.3)
- Conflict-of-interest declarations on selection and disbursement
- Reconciliation to the payment channel and to GIFMIS
- Immutable audit trails
- Whistleblowing and grievance routes accessible to beneficiaries (§17.2)

AI may flag suspicious patterns. Final adverse decisions remain with a human, and are appealable.

PART IV — DELIVERY

41. What NOT to Build

Strategically the most important list in this document.

Do **not** build:

- another youth opportunity marketplace — **YouthXplore exists**
- an employer portal, vacancy board or general job-matching engine — **GLMIS exists**
- another coding or course platform — **OMCP exists**
- another apprenticeship discovery portal — **NAP and YouthXplore exist**
- another national identity system — **NIA exists**
- another TVET certification authority — **CTVET exists**
- another standalone entrepreneurship portal — **NEIP/Adwumawura exists**
- a government financial system of record — **GIFMIS exists**
- a second national youth dashboard — **the Youth Tracker exists**
- a static youth directory

> ***Connect the ecosystem. Run NYA's delivery. Prove the outcome.***

42. MVP Scope

In the first production release

- Authentication and IAM
- Programme management
- Beneficiary management with the V0–V3 verification ladder
- Applications, verification and selection
- Cohort management
- **Attendance, built as a control**
- Field tasks and offline capture
- **Disbursement control — gate, exceptions, maker-checker-approver, reconciliation**
- Basic case management
- Grievance workflow
- Placement recording and outcome verification with evidence levels
- Follow-up scheduling
- District and programme dashboards
- Data-quality dashboard
- Audit and consent register
- API foundation and the Youth Tracker event feed

Deliberately later

- Advanced AI and predictive analytics

- Mentorship module
- Entrepreneurship lifecycle beyond basic outcome recording
- Volunteer management
- Advanced field inspections
- Intervention planner
- Expanded USSD and IVR
- Cross-agency data exchange beyond the Youth Tracker feed

---

43. The 90-Day Proof

New in v2, and the most important change to the delivery plan. It reduces the first decision to something NYA can approve now, and it produces evidence rather than a demonstration.

43.1 Scope

One programme. NAP — because it is NYA's own, has money attached, and has a 100,000 target for 2026. **One region. Ten districts.**

43.2 Deliverables

1. Participant register with the V0–V3 verification ladder
2. Offline field attendance capture on officer devices
3. The disbursement eligibility gate
4. One maker-checker-approver approval cycle
5. **One real end-to-end payment cycle, reconciled**
6. A district dashboard

43.3 Explicitly out of scope

No employer portal. No entrepreneurship module. No mentorship. No AI. No executive dashboard. No cross-agency integration beyond NIA verification.

43.4 The gate

> ***Did attendance data quality and payment exception rates improve measurably against the paper baseline?***
>
> ***If not, stop.***

A stop is a successful outcome of a 90-day proof. It costs NYA three months instead of three years.

---

44. 12-Month Roadmap

Phase 0 — Discovery and governance · 8–12 weeks

Stakeholder workshops · system and data inventory · programme process mapping with current time and cost per step · legal and privacy review including DPIA · **scope agreements in writing with MYDE and with the Labour**

Department · CSA determination request · NIA commercial terms · build-vs-adapt decision · architecture · pilot region selection · prototype · costed roadmap · procurement strategy.

Phase 1 — 90-day proof · Months 3–5

As §43. **Gated.**

Phase 2 — Field operations proper · Months 5–8

Cases, referrals, grievance workflow, safeguarding tier, centre and workplace inspections, evidence capture, sync conflict resolution. Extend to a second region with a different connectivity profile.

Phase 3 — Outcomes · Months 7–10

Placement records, employer and master-craftsperson confirmation, evidence levels C and D, 3- and 6-month follow-up, first verified conversion measurement, entrepreneurship outcome recording.

Phase 4 — Integrations, in dependency order · Months 8–11

NIA (already live from Phase 1) → YouthXplore intake → Youth Tracker event feed → GLMIS vacancy consumption → GIFMIS reconciliation. OMCP and CTVET/TVETMIS only when those systems are ready to expose data.

Phase 5 — Evaluation and scale decision · Months 10–12

Independent evaluation per §45 · security and data-quality audit · user research · **recurrent-budget decision** · national rollout business case.

Phase 5 cannot be passed without a confirmed recurrent budget line. That condition is what prevents this becoming another system that stops when the project does.

---

45. Pilot Design and Evaluation

Rewritten in v2. Version 1 proposed three regions and a list of objectives, with no comparison group, no pre/post measurement and no evaluation method. It could not have attributed any result to the platform, and the Ministry's evaluators would have said so.

45.1 Design

Staggered rollout with a comparison group. Within each pilot region, districts are randomised or systematically staggered into early-adopter and later-adopter groups. Later-adopter districts serve as the comparison for the first six months, then receive the platform.

Nobody is denied the system — they receive it later. This is both ethical and administratively normal, and it is the difference between "placement improved" and "the platform improved placement".

45.2 Measures

Type	Measure
Primary outcome	Verified conversion rate at 12 months post-completion (§55)

Secondary	Attendance data completeness · application-to-selection turnaround · payment exception rate · share of outcomes at evidence level C/D · officer time per verification
Process	Active officer rate · sync success rate · offline queue age · grievance volume and resolution time · device availability

45.3 Pre-register the analysis

Write down before launch what would count as success and what would count as failure, and publish it.

This is the single most credible thing a government technology programme can do, and it is almost never done. It also protects NYA: a pre-registered failure is a disciplined decision, while an unregistered one is an embarrassment.

45.4 Region selection criteria

State the criteria; let NYA name the regions.

1. **One high-unemployment urban region.** Greater Accra records the highest youth unemployment at 31.9% (GSS)
2. **One secondary-city or mixed region** with active NAP and YLSTI presence
3. **One rural, low-connectivity region** — this is the real test of the offline architecture, and a pilot that avoids it proves nothing

Plus, for all three: existing NYA district office coverage, a willing regional director, and programme volume sufficient to detect an effect.

---

46. Scale Roadmap

Year	Focus
1	Discovery, 90-day proof, pilot in three regions, evaluation
2	National NYA programme coverage; recurrent budget established
3	Cross-agency extension — the pattern offered to MYDE for YEA, NEIP, NSA
4	Advanced outcome intelligence and longitudinal analysis
5	Mature national youth-development delivery data ecosystem

Year 3 is where the v1 ambition returns — but as a decision MYDE takes on the evidence of a working system, not as a claim made in a proposal.

---

47. Target Operating Model

New in v2. Version 1 described a governance committee and a technical build, with nobody named to run the thing afterwards.

Role	Sits in	Responsibility
Senior Responsible Owner	NYA, Deputy CEO or Director level	Accountable for benefits, not just delivery

Product Owner	NYA, full-time, permanent	Owns the backlog and says no. **Non-negotiable** — a platform without a permanent product owner becomes the vendor's product
Data Stewards (per domain)	NYA programme directorates	Definitions, data-quality scores, correction authority
Data Protection Officer	NYA	DPIAs, consent regime, subject rights, regulator liaison
Safeguarding Lead	NYA	Restricted-tier access, mandatory reporting, escalation
Disbursement Controller	NYA finance	Owns the gate rules, exception adjudication and reconciliation
Regional Digital Leads	Each region	Adoption, super-user network, escalation
Super-users	2 per district	First-line support; the difference between adoption and shelfware
Service desk	NYA or contracted	Tiered, in-language, phone-first
Integration owner	NYA ICT	API contracts, SLAs, partner reconciliation

48. Change Management and Capacity

MYDE's MTDP names **"Outdated capacity building and training processes"** as a sector weakness, and lists digital literacy, ICT for youth development, digital tools for programme management, and results-based M&E among its capacity-development priorities (MTDP, pp. 20 and 79–80).

Capacity is therefore a **named risk in the Ministry's own plan**, not an assumption this proposal is entitled to make.

Approach:

- Role-based, hands-on, repeated training — not a one-off workshop
- A certified **super-user network** as a tracked deliverable with a completion target
- Training materials in plain language, with printable job aids for field use
- Trainer-of-trainers, so capability stays inside NYA rather than inside the vendor
- Adoption measured weekly through the Officer Workload view (§25.5), with intervention triggered by non-use rather than discovered at evaluation

49. Costs

> ***Every figure in this section is an estimate produced for order-of-magnitude planning. None is a quotation and none is sourced. Replace them with real quotations before any submission. [estimate]***

49.1 Phase 0 — Discovery and pilot design, 8–12 weeks

Item	Indicative GHS
Discovery team — product, architect, data/privacy, service design, research	350,000 – 600,000
Field research across three regions — travel, translation, participant costs	90,000 – 160,000

Data Protection Impact Assessment and legal review	70,000 – 140,000
Interactive prototype, seven priority screens	120,000 – 220,000
Architecture, integration assessment, costed roadmap, procurement strategy	90,000 – 160,000
Total	**~720,000 – 1,280,000**

49.2 Phases 1–5 — pilot build and run, 12 months, three regions

Item	Indicative GHS
Platform configuration and build (hybrid per §36)	2,500,000 – 5,000,000
Integrations — NIA IVSP, YouthXplore intake, Youth Tracker feed, payment channel	700,000 – 1,500,000
Field devices and accessories (~250 officers)	500,000 – 900,000
Connectivity and data bundles, 12 months	200,000 – 400,000
Hosting, backup, disaster recovery, 12 months	250,000 – 600,000
Security assurance — CSA-licensed penetration test, CII compliance	200,000 – 450,000
NIA verification fees, volume-driven	**rate to be obtained from NIA**
Training, change management, super-user network	400,000 – 800,000
Service desk and operations, 12 months	350,000 – 700,000
Independent evaluation (§45)	300,000 – 600,000
Contingency, 15%	—
Total	**~5.4m – 11.0m, plus NIA fees and contingency**

49.3 The number that actually matters

Recurrent cost from year 2 — hosting, support, device refresh, connectivity, NIA verification fees, licences, service desk and a small permanent product team — is estimated at **GHS 2.5m – 5.0m per year at pilot scale**, rising with national rollout. **[estimate]**

If this is not in NYA's recurrent budget line, the platform dies in year three however well it is built.

Say this in the pitch. It is the failure mode of almost every donor-funded government system in the region, it builds credibility to name it, and it converts a technology decision into an institutional commitment — which is what it actually is.

49.4 Affordability context

MYDE's 2026 budget is approximately **GHS 1.6 billion**, of which roughly **GHS 1.1 billion is ring-fenced** for economic transition programmes and **nearly GHS 1.0 billion is absorbed by National Service Authority personnel allowances** (IMANI via MyJoyOnline).

Discretionary capital is thin. A proposal that ignores this gets deferred. Two design responses follow directly:

1. **Phase 0 is deliberately small** — under 0.1% of the Ministry's annual budget.
2. **The funding routes in §50 do not depend on the Ministry's discretionary budget.**

50. Procurement and Funding

50.1 Procurement

GHANEPS use is mandatory for all public entities, under the Public Procurement Act 663 as amended by Act 914 (PPA). Competitive tendering is the norm, and single-source is confined to narrow grounds — exclusive supply, unforeseeable urgency, catastrophic events, standardisation with existing equipment, or national security.

Path:

1. **Phase 0** — a consultancy engagement small enough for a fast but competitive method, run on GHANEPS. Do not attempt to single-source it.
2. **Phases 1–5** — competitive tender for a system integrator, with requirements derived from Phase 0 outputs and two-envelope technical/financial evaluation.

Contract clauses to insist on:

- Government ownership of all data, configuration and documentation
- Source code escrow
- A documented export format for every entity, tested during the contract, not at its end
- Transition-out assistance at pre-agreed day rates
- Evidence of a current CSA licence as a condition precedent for any security work
- DPIA remediation obligations
- **No per-beneficiary licensing** — it penalises success and makes scaling a negotiation
- NYA holds accounts, domains, certificates and encryption keys (§39)

50.2 Funding routes, in order of realism

#	Route	Notes
1	**A successor World Bank jobs-and-skills operation**	The Ghana Jobs and Skills Project (P166996, US$200m IDA) closed 30 June 2026 (World Bank). Delivery systems and MIS components are exactly what such operations fund. **Ask whether a successor is in preparation — do not assume**
2	**National AI Fund**	GH¢5bn for 2025–2030, with a public-sector AI adoption pillar (MoCDTI). A youth-outcomes data platform with an explainable officer assistant is a strong fit
3	**Corporate co-financing**	IMANI specifically recommended MYDE leverage multinational firms' social investment portfolios to "multiply programme impact without over-relying on the central treasury" (MyJoyOnline)
4	**Development partners already in the sector**	AGRA/YEFFA co-launched with YouthXplore; GIZ and IOM appear in MYDE's MTDP delivery tables
5	**MYDE discretionary budget**	Realistically the hardest, for the reasons in §49.4

51. Governance Model

A cross-institution steering committee, chaired by NYA for Phase 1 and by MYDE if and when the platform extends across agencies.

Membership

- MYDE
- NYA *(chair, Phase 1)*
- YEA
- NEIP
- NSA — National Service Authority
- Ministry of Labour, Jobs and Employment / Labour Department (GLMIS)
- MoCDTI / OMCP
- CTVET
- NIA
- Data Protection Commission
- Cyber Security Authority
- NITA
- Ghana Statistical Service — indicator definitions
- Technical delivery team
- Selected private-sector and employer representation
- **Youth representation** — the platform is about young people; at least two seats should be held by them

Responsibilities

Data standards · interoperability · programme definitions · privacy · security · outcome definitions · API governance · change control · **scope boundaries between NYA-YOP, the Youth Tracker and GLMIS**.

---

52. Data Ownership Principle

The platform must avoid the political and technical risk of declaring itself the owner of every youth record.

> ***Each institution remains accountable for the data it originates, while the interoperability layer enables authorised exchange.***

NYA-YOP is the operational system for NYA-managed workflows, and — only where MYDE so decides — the orchestration layer for agreed cross-programme journeys.

---

53. Risk Register

#	Risk	Likelihood / impact	Mitigation
1	**Mandate collision with MYDE's Youth Tracker**	High / High	Position per §4. Obtain a written scope agreement with MYDE before Phase 1 build. **The highest-priority risk in the programme**
2	**Duplication of GLMIS**	High / High	Employer and matching modules removed (§19). Data-sharing agreement with the Labour Department in Phase 0
3	**Recurrent funding not secured**	High / High	Make the year-2 recurrent budget line a written gate condition for Phase 2 (§44)

4	**NIA verification cost or availability**	Medium / High	Obtain written rates and SLA in Phase 0. The V0–V2 ladder ensures the platform degrades rather than stops (§13.6)
5	**Regulatory change mid-build (Data Protection Bill 2025)**	High / Medium	Design to the Bill; budget a compliance re-baseline at enactment (§38.2)
6	**CII obligations discovered late**	Medium / High	Seek a CSA determination in Phase 0, not Phase 4 (§37.1)
7	**Poor data quality**	High / Medium	Data-quality scoring, validation, stewardship, and making quality visible to the manager responsible (§24)
8	**Connectivity**	High / Medium	Offline-first field architecture; a rural pilot region as a deliberate test (§45.4)
9	**Officer overload — the app adds net work**	Medium / High	Time-and-motion baseline in Phase 0; Officer Workload view as an early-warning system (§15.4, §25.5)
10	**Field device loss and misuse**	High / Low	Device policy, MDM, remote wipe, personal accountability, insurance budgeted (§49)
11	**Ghost beneficiaries and collusive attendance**	Medium / High	Disbursement controls and independent random re-verification (§18.3, §40)
12	**Institutional resistance**	Medium / Medium	Federated governance, clear source-of-truth rules, shared KPIs (§34, §51)
13	**Vendor lock-in**	Medium / Medium	Open standards, escrow, tested export, transition-out clauses, NYA-held infrastructure (§39, §50.1)
14	**AI overreach**	Low / High	Human oversight, explainability, no fully automated adverse decisions (§28.4)
15	**Dashboards without operational adoption**	Medium / High	Build workflow tools first. Dashboards reflect real transactions or they are not built
16	**Political cycle**	Medium / High	Deliver value visible to officers within 90 days, not to executives within 12 months. An adopted system survives a change of government; a dashboard does not
17	**Safeguarding incident involving a minor**	Low / Very high	Restricted tier, mandatory reporting, trained officers, cleared master craftspersons, policy annex before any under-18 deployment (§17.3)

54. Success KPIs and Baselines

54.1 Published baselines

Indicator	Baseline	Source
Youth unemployment, 15–35	21.9%	GSS via Graphic
National unemployment	12.8%	as above
Youth NEET	~1.9m, 19.5%	Citi News / GSS
Highest regional youth unemployment	Greater Accra 31.9%	as above

OMCP registrations → completions	141,954 → 5,812 (~4%)	MyJoyOnline
Adwumawura trained → grant-funded	10,887 → 3,212	B&FT
NAP 2026 enrolment target	100,000	Modern Ghana
NYA training targets 2026–2029	10k → 100k → 140k → 250k → 250k	MYDE MTDP, p.70
NYA field footprint	10 regional, 81 district offices, +120 districts being added, 11 YLSTIs	NYA — **confirm**
MYDE 2026 budget	~GHS 1.6bn, ~GHS 1.0bn to NSA allowances	IMANI via MyJoyOnline

54.2 Baselines only NYA can supply

Indicator	Status
NYA outcomes verified at evidence level C or D	**Unknown. Expect near zero. This is the business case.**
NYA application-to-selection turnaround	To be supplied
NYA attendance data completeness	To be supplied
NYA payment exception rate	To be supplied
Officer time per verification	To be measured in Phase 0

If NYA cannot today produce the share of its outcomes that are third-party verified, **that is the finding**, and it is a stronger argument than anything in this document.

54.3 Programme KPIs

Adoption: % NYA programmes onboarded · % regions active · % districts active · monthly active officers · partner adoption.

Operational efficiency: application processing time · verification turnaround · selection turnaround · reporting time · field task completion · **disbursement cycle time**.

Data: completeness · duplicate rate · verification rate · timeliness · **outcome-confirmation rate**.

Integrity: payment exception rate · re-verification pass rate · grievance volume and SLA compliance.

Youth outcomes: completion · certification · placement · employment · business survival · income improvement · volunteer retention.

Equity: women · persons with disabilities · rural youth · underserved districts · vulnerable groups, where legally and ethically appropriate.

---

55. North-Star Metric

IMANI framed the measure the Ministry is being held to: how many trainees transition into **"sustainable self-employment, formal taxpaying roles, and active SSNIT contributors"** (MyJoyOnline).

Use the sector's own language.

> *## Verified Conversion Rate (VCR)*
>
> *The percentage of youth who **started** an NYA programme in a given cohort and, **twelve months after completion**, hold a **verified** sustained outcome:*
>
> *- employment retained for a defined period*
> *- an operating business*
> *- a verified continued education or training pathway*
> *- a sustained volunteering, service or leadership pathway*
>
> ***Reported at evidence level C or D only.** Self-reported outcomes are shown separately and never in the headline figure.*

Supporting measures: cost per verified conversion · time from completion to outcome · conversion disaggregated by region, sex, disability and urban/rural.

55.1 The integrity companion

> ***Outcome Verification Rate:** the percentage of recorded outcomes that reach evidence level C or D.*

A rising conversion rate with a falling verification rate is a warning, not a success. Publishing both together is what makes the headline number defensible.

---

56. Cost per Outcome

Move beyond *cost per trainee*, toward *cost per completed trainee*, and ultimately to:

> ***Cost per verified sustained employment outcome***
> ***Cost per surviving supported business***

Cost figures reconcile to **GIFMIS**, in line with the Ministry's own commitment to leverage existing financial systems for M&E (MTDP, ch. 7). NYA-YOP does not maintain a parallel view of programme spend.

---

57. Programme Comparison

Executives compare programmes on outcome, not on registration volume.

```
Programme A                    Programme B
Reach            20,000        Reach            12,000
Completion          82%        Completion          76%
Placement           61%        Placement           73%
12-month VCR        48%        12-month VCR        59%
Verification rate   84%        Verification rate   61%
Cost per VCR    GHS 4,100      Cost per VCR    GHS 3,300
```

Note what the verification-rate column does: Programme B looks better on outcomes, but its outcomes are less well verified. Without that column the comparison is misleading. **The objective is not to reward the programme with the biggest registration number, nor the one with the least rigorous verification.**

PART V — THE CASE

58. Differentiation

The defensible value is not the interface. It is the combination of:

1. A common programme workflow across NYA's portfolio
2. A longitudinal youth journey record with verification tiers
3. Field operations that work offline, at district level
4. **Disbursement control tied to verified attendance**
5. Outcome verification with published evidence levels
6. Interoperability built to national standards
7. Data governance that survives a regulator's inspection
8. Cross-programme operational analytics
9. Executive intelligence grounded in real transactions

Value accumulates through operational data, integrations, workflows and institutional adoption. That is difficult to replicate and difficult to displace — which is precisely why it should be **owned by government, not by a vendor** (§39, §50.1).

---

59. CEO Business Case

Before

Government knows how many registered, how many were trained, and how many received support.

It struggles to answer consistently:

- How many are still active?
- Who got employed — and can we prove it?
- Who started a business, and is it still operating?
- Who dropped out, and why?
- Which programme performs best on outcome, not volume?
- Which regions are underperforming?
- Was every cedi of allowance paid to someone who earned it?
- Which interventions create durable outcomes?

After

NYA can answer, with evidence attached:

> ***Who did we support, what did we provide, what happened next, what measurable outcome resulted — and at what level is each of those verified?***

That is a materially stronger institutional capability, and it is the capability the Ministry's own medium-term plan says the sector lacks.

---

60. The Last Mile of Empowerment

Government can provide training, capital, equipment, mentorship, certification, internships and opportunities.

Empowerment becomes tangible when the young person achieves:

income + independence + capability + participation

```
Opportunity → Access → Participation → Completion → Certification →
Connection → Employment / Business → Income → Growth → Contribution
```

The platform exists to make this chain **visible, verifiable and improvable**.

---

61. Product Positioning

Working product name

NYA Youth Operations Platform (NYA-YOP)

Positioning statement

> ***The operational system that runs the National Youth Authority's programmes end to end — from application through verification, training, field delivery, disbursement and placement to a verified employment or enterprise outcome — and publishes trustworthy, real-time data into the National Youth Tracker.***

Short version

> ***NYA-YOP is where the Youth Tracker's data comes from.***

One line for the Minister

> ***It makes the Tracker true.***

The ecosystem in four lines

```
YouthXplore    = Discovery and application
GLMIS          = Labour demand and job matching
NYA-YOP        = NYA delivery, field operations, disbursement
                 control and verified outcomes
Youth Tracker  = National intelligence
```

---

62. The 60-Second Pitch

> *Ghana has never invested more in young people. One Million Coders has 141,954 registrations. Adwumawura has trained nearly 11,000 entrepreneurs. NAP is scaling to 100,000 apprentices this year. And the Ministry's own medium-term plan says, in its own words, that the sector has an "inadequate and unreliable database on youth programmes" and an "absence of real-time data on youth."*
>
> *Here is the problem in one number. Of those 141,954 coder registrations, 5,812 have completed a course.*

> *Nobody can currently tell you what happened to those 5,812 afterwards.*
>
> *The Youth Tracker was built to show the picture. But a tracker can only report what agencies submit, and today NYA submits totals collected on paper, weeks late. Our own officers know things the national dashboard never learns.*
>
> *NYA-YOP is the operational system that fixes the input. A district officer verifies a beneficiary once, offline, on a phone, against a Ghana Card check. Attendance gates the stipend. An employer or a master craftsperson confirms the placement. Six months later a follow-up confirms whether it held. Every one of those becomes a verified event in the Youth Tracker the same day.*
>
> *We are not building another youth app, another job board, or another dashboard. We are building the thing that makes the Ministry's dashboard true — starting with one programme, in one region, in 90 days.*
>
> ***The question the CEO should be able to answer next year is not how many young people we reached. It is what percentage of them we can prove are still working.***

---

63. Board-Level Decision Request

The decision requested is not approval to build a national platform.

It is approval for a **10-week Youth Delivery Discovery**, followed by a **90-day single-programme proof** in one region, with an explicit stop/go gate before any platform investment.

Discovery deliverables

1. Verified inventory of NYA's current programme systems, spreadsheets and paper processes
2. Process maps for NAP and two other NYA programmes, with time and cost per current step
3. Baseline measurement — attendance completeness, application turnaround, share of outcomes verified at level C/D, officer time per verification
4. **Scope agreement with MYDE on the Youth Tracker boundary — in writing**
5. **Scope agreement with the Labour Department on the GLMIS boundary — in writing**
6. Data Protection Impact Assessment, and a CSA determination on CII status
7. NIA IVSP commercial and technical terms, in writing
8. Build-versus-adapt evaluation and recommended architecture
9. Interactive prototype of seven priority screens, tested with real district officers and real young people
10. Costed roadmap with a recurrent-cost line for years 2–5
11. Procurement strategy compliant with Act 914 and GHANEPS

Cost and value

Indicative cost: GHS 720,000 – 1,280,000 **[estimate]**

What it buys: the ability to make the real decision on evidence, at roughly one tenth of one percent of the Ministry's annual budget.

Prototype priority

If the proposal is demonstrated to NYA leadership, prototype these first:

1. **Field mobile home and offline verification** — shows last-mile delivery, which is the actual innovation
2. **Youth journey record with verification tiers** — shows the central data idea
3. **Disbursement run and exception queue** — shows fiduciary control
4. **District dashboard** — shows what an officer's day becomes
5. **Placement and outcome verification with evidence levels** — shows the shift from activities to outcomes
6. **Executive overview** — shows strategic value
7. **Integration centre** — shows the platform complements existing systems rather than replacing them

Note that this ordering inverts v1's. Lead with the field, not the executive dashboard: the field is what nobody else has, and the dashboard is what everybody has already seen.

---

64. Immediate Next Actions

#	Action	Why
1	Test the §4 positioning with the NYA CEO's office	If the positioning is wrong, nothing else matters
2	Ask NYA for three numbers — current outcome verification rate, application-to-selection turnaround, attendance completeness	These are the business case
3	Confirm NYA's actual district office and YLSTI footprint	The field business case depends on it
4	Establish MYDE's plan for the Youth Tracker's next phase	Determines complementary versus competing
5	Contact the Labour Department about GLMIS scope and data sharing	Removes the duplication objection permanently
6	Request NIA IVSP commercial terms in writing	Costing blocker
7	Ask the World Bank country office whether a GJSP successor operation is in preparation	Most realistic funding route
8	Seek a CSA view on CII designation	Compliance blocker, cheap to ask early
9	Identify the full-time product owner inside NYA	If there is no answer, that is the first thing to solve
10	Submit the Phase 0 discovery request	Only after 1–9

---

65. Open Questions for NYA

These determine whether this is a 90-day project or a three-year programme. They are recorded here because a proposal that pretends to know them is less credible than one that asks.

1. What percentage of NYA's recorded 2025 outcomes were confirmed by anyone other than the beneficiary?
2. How many days from application submission to selection decision on NAP today, and where does the time actually go?
3. How is NAP attendance captured now, and how is it linked to allowance payment?

4. How many district offices are genuinely staffed and operating, and how many officers would use a mobile tool daily?
5. What was already procured or built for NAP registration at `nap.nya.gov.gh`, who owns it, and can it be extended?
6. What does NYA send to the Youth Tracker today — in what format, how often, and who at MYDE owns it?
7. Is NYA registered with the Data Protection Commission as a data controller, and does a DPIA exist for any current system?
8. Does NYA have an existing NIA verification agreement, and at what rate per verification?
9. What is in NYA's recurrent ICT budget line today, and what could it realistically become?
10. Who inside NYA would be the full-time product owner?

---

66. Evidence and Sources

Government and official

1. MYDE 2026–2029 Medium-Term Development Plan (NDPC) — sector SWOT, results framework, M&E arrangements, capacity gaps, agency targets
2. Ministry of Youth Development and Empowerment — ministry and agency pages; National Apprenticeship Programme
3. National Youth Authority — overview and field structure, SkillsConnekt, Youth Innovate, NAP
4. National Youth Authority Act, 2016 (Act 939)
5. National Youth Policy 2022–2032
6. National Service Authority — About
7. Ghana Labour Market Information System
8. NIA — Identity Verification Services and fee schedule, January 2026
9. Cyber Security Authority — Directive for the Protection of Critical Information Infrastructure
10. NITA — Ghana e-Government Interoperability Framework; NITA about; data centre and cloud regulatory framework
11. Public Procurement Authority — mandatory GHANEPS
12. MoCDTI — National AI Strategy launch, 24 April 2026; OMCP completions
13. CTVET — Ghana TVET Report 2026 and TVETMIS; B&FT on TVETMIS
14. World Bank — Ghana Jobs and Skills Project (P166996)

Press and analysis

1. GNA — MYDE launches national Youth Tracker, YouthXplore (3 Dec 2025)
2. Graphic Online — Ministry launches youth tracker platform, mobile app
3. MyJoyOnline — IMANI's proposed reforms following engagement with MYDE
4. Ghanamma — IMANI challenges Youth Ministry on budget, skills and governance (6 Sep 2026)
5. MyJoyOnline — OMCP: 141,954 registrations, 27,782 active learners
6. Ghana Business News — 140,000 register for OMCP, 10,000 complete (7 Sep 2026)
7. TechAfrica News — OMCP certifications integrated into university degrees (8 Sep 2026)
8. B&FT — NEIP commences grant disbursement under Adwumawura
9. Graphic Online — 100,000 targeted for the National Apprenticeship Programme
10. Modern Ghana — NAP to train 100,000 youth by end of 2026, NYA CEO

11. Graphic Online / GSS — nearly 2 million young Ghanaians NEET; Citi News
12. Sustineri Attorneys — Data Protection Bill 2025 compared with Act 843; B&FT
13. TechAfrica News — CSA fines EY Ghana GH¢360,000 for unlicensed services; crackdown on unlicensed providers
14. Ghanaian Times — Ghana Labour Market Information System; GBC
15. Citi News — OMCP targets 400,000 beneficiaries in 2026
16. Digital Watch — Ghana's Cybersecurity Act 2020 (Act 1038)
17. DHIS2 / HISP; World Bank GovTech — open-source CORE-MIS for social protection

Known limitations of this evidence base

- **All costs in §49 are estimates.** Not quotations, not sourced.
- **NIA verification pricing could not be obtained.** The published schedule confirms per-hit, per-device and annual licence charges exist; current rates were not reliably extractable. This is a costing blocker.
- **The Youth Tracker's architecture, vendor and roadmap are not public.** Everything said about its capabilities is inferred from launch reporting and must be tested directly with MYDE.
- **NYA's district footprint figures come from NYA's own website and may be stale** — 10 regional offices against Ghana's 16 regions suggests so.
- **OMCP completion figures conflict between sources** — 5,812 as at 2 August against ~10,000 in a 7 September report. The lower, sourced figure is used throughout; the discrepancy is noted rather than resolved in the flattering direction.
- **Institutional arrangements were reported inconsistently**, in particular whether YEA sits under MYDE or the Ministry of Labour, Jobs and Employment. The MTDP results framework assigns YEA indicators to MYDE, which is the stronger evidence, but it should be confirmed.
- Research used general web sources only. No subscription policy databases, no Hansard, no procurement records.

---

67. Closing Principle

The strongest NYA digital strategy is not:

> *"Let's build an app for young people."*

Nor is it:

> *"Let's build the national system that tracks every young person."*

It is:

> ***"Let's build the operating system that lets NYA deliver — and prove it delivered."***

Ghana already has discovery. It already has matching. It now has a national intelligence dashboard.

What it does not have is a delivery system underneath any of them.

```
YouthXplore    = Discovery and application
GLMIS          = Labour demand and job matching
NYA-YOP        = NYA delivery, field operations, disbursement
                 control and verified outcomes
Youth Tracker  = National intelligence
```

NYA-YOP = Programme Delivery + Youth Journey + Field Operations + Disbursement Control + Verified Outcomes + Interoperability.

Together these form a coherent digital youth-development ecosystem — rather than another disconnected platform.

And the measure of success is a single number NYA cannot produce today: the percentage of the young people it supported who can be proven, at third-party evidence level or better, to be still working twelve months later.

PART VI â€” SCREEN-BY-SCREEN SPECIFICATION

The product and UI specification: 60 screens as revised in version 2, followed by the ten screens the review found missing (Screens 61â€“70). Everything here is built in the accompanying prototype.

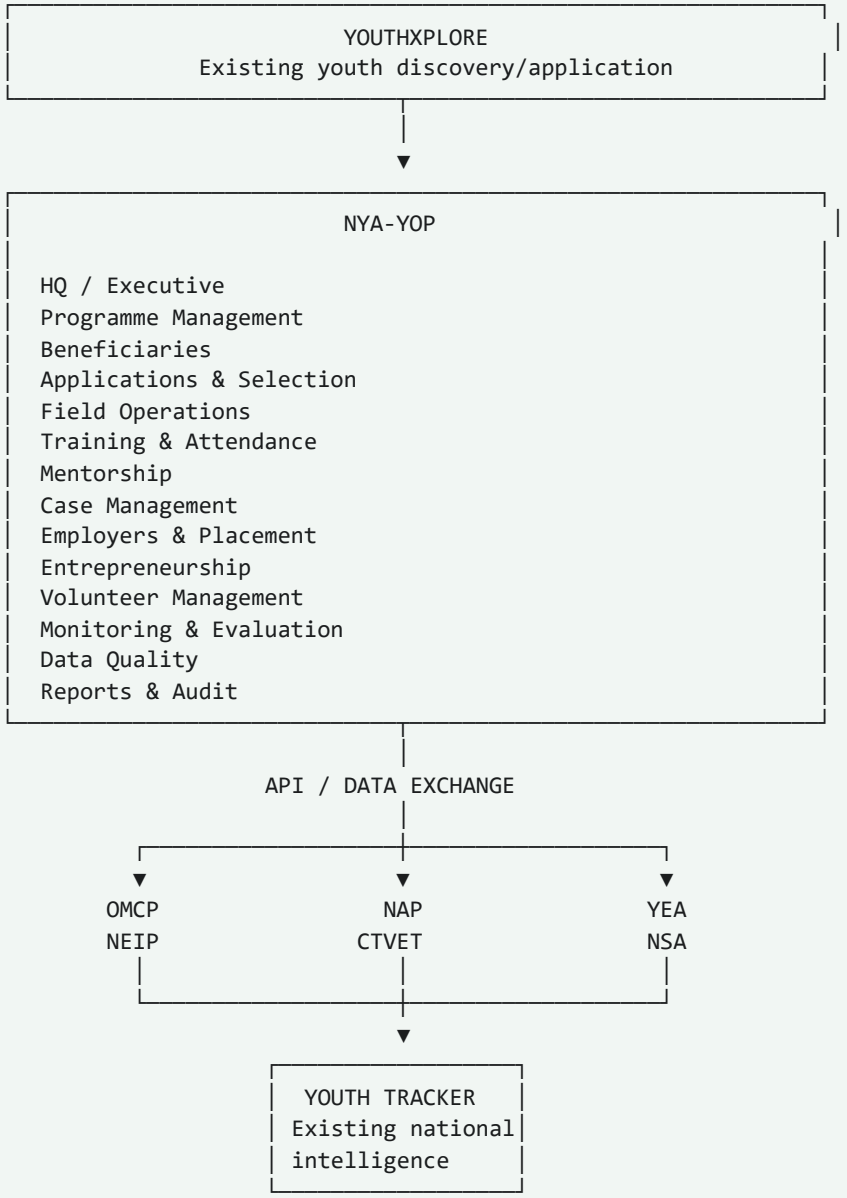
Date: 8 September 2026 **Status:** Product/UI blueprint **Working name:** NYA Youth Operations Platform (NYA-YOP) **Revision:** v2 — 8 September 2026, following independent review. See `NYA-YOP_Review_and_Development_Pack.md`.

> ***All numbers shown on the screens in this document are illustrative wireframe data, not NYA figures.*** *They exist to show layout and information hierarchy. Do not quote them.*

---

1. Platform Structure

NYA-YOP is an operational platform, not another public opportunity marketplace.



2. Navigation Model

The desktop application uses a persistent left navigation.

```
NYA-YOP
_____________________________

▣ Overview
▣ Programmes
▣ Youth / Beneficiaries
▣ Applications
▣ Selection & Verification
▣ Cohorts & Training
▣ Field Operations
▣ Cases & Referrals
▣ Mentorship
▣ Employers
▣ Placements
▣ Entrepreneurship
▣ Volunteering
▣ Outcomes
▣ Monitoring & Evaluation
▣ Data Quality
▣ Reports
▣ Integrations
▣ Administration
```

Top bar:

```
[Search anything...]       [Alerts] [Tasks] [Help] [User]
```

Global search should find:

- youth
- applications
- programmes
- employers
- training centres
- cases
- placements
- businesses
- reports

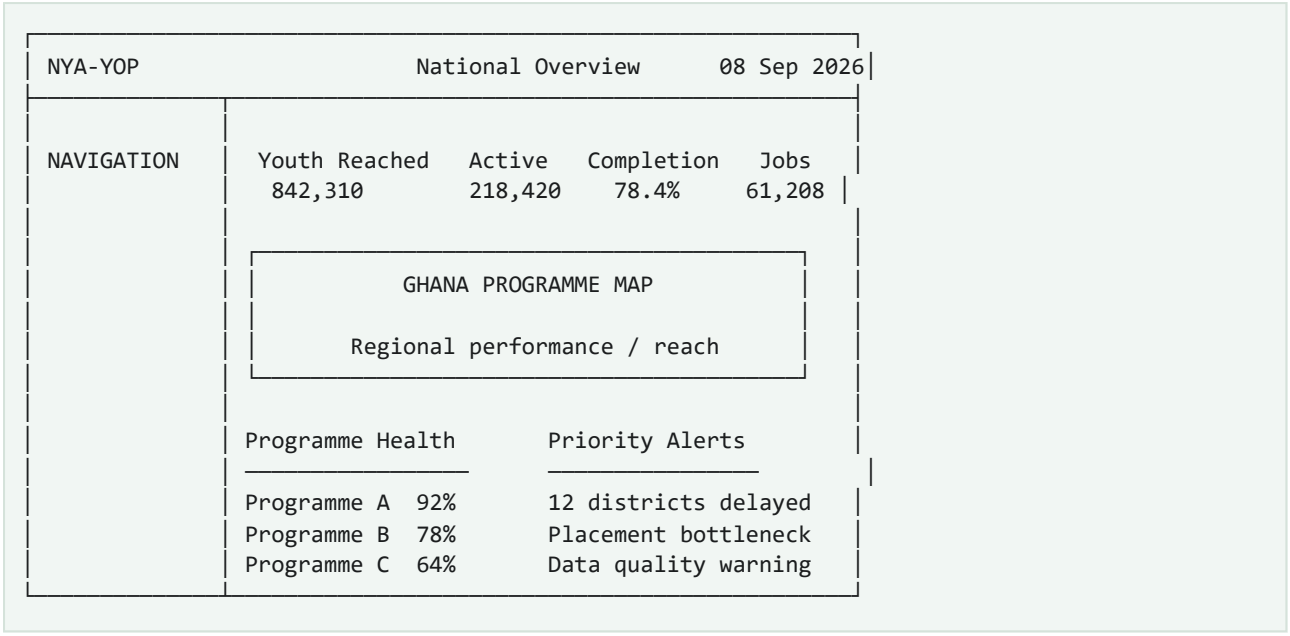
---

3. Screen 01 — Executive National Overview

Purpose

The CEO/leadership landing page.

Layout



Executive cards

- Youth reached
- Active participants
- Completion rate
- Placement rate
- Verified employment
- Active businesses
- Volunteer hours
- Verified outcomes

Executive controls

Filters:

- date
- region
- district
- programme
- gender
- age band
- urban/rural
- outcome type

---

4. Screen 02 — Executive Programme Portfolio

Purpose

Compare every NYA programme.

```
Programme Portfolio

[All Programmes ▼] [Region ▼] [Period ▼]

Programme        Reach    Complete    Placement    Outcome
──────────────────────────────────────────────────────────
SkillsConnekt    82,400      79%          52%         44%
NYVP             34,800      86%           --          67%
Youth Innovate    1,240      73%           --          58%
YLSTI            18,920      81%          61%         54%
```

Clicking a programme opens its programme workspace.

---

5. Screen 03 — Programme Workspace

Header

```
Skills Programme
Status: ACTIVE
Owner: Programme Directorate

[Overview] [Applications] [Cohorts] [Training]
[Attendance] [Mentorship] [Placement] [Outcomes]
[Reports] [Settings]
```

KPI strip

- Applicants
- Selected
- Started
- Active
- Completed
- Placed
- Outcome verified

Main panels

FUNNEL

```
Applicants       18,430
       ↓
Verified         15,920
       ↓
Selected         10,000
       ↓
Started           9,620
       ↓
Completed         8,240
       ↓
Placed            5,110
       ↓
Outcome verified  4,320
```

BOTTLENECKS

- verification backlog
- dropout
- attendance
- assessment
- placement
- follow-up

---

6. Screen 04 — Programme Creation Wizard

Step 1 — Programme identity

Fields:

- programme name
- programme type
- description
- owner
- implementing organisation

Step 2 — Eligibility

- age
- geography
- education
- skills
- disability/inclusion criteria
- other programme-specific requirements

Step 3 — Targets

- total participants
- regional targets
- district targets
- inclusion targets

Step 4 — Workflow

Select:

```
Application
Verification
Selection
Training
Assessment
Certification
Placement
Follow-up
Outcome
```

Step 5 — Outcome framework

Define:

- output
- short-term outcome
- medium-term outcome
- long-term outcome
- measurement frequency
- verification method

Step 6 — Publish

```
[Save Draft] [Submit for Approval] [Publish]
```

---

7. Screen 05 — Application Queue

```
Applications

Search [________________]

Filters:
Programme | Region | District | Status | Date

ID       Applicant       Programme      Status
_____________________________________________
A1023    Youth 001       Apprenticeship  Review
A1024    Youth 002       Skills          Verified
A1025    Youth 003       Volunteer       Missing
```

Actions:

- open
- assign reviewer
- verify
- request information
- reject
- shortlist

---

8. Screen 06 — Application Review

```
APPLICATION A1023

Applicant
──────────────────────────
Name / authorised identity reference
Location
Age band
Contact
Eligibility

Programme
──────────────────────────
Programme: Apprenticeship
Track: Electrical
District: ...

Evidence
──────────────────────────
✓ Eligibility
✓ Required documents
✓ Identity verification
⚠ Additional information required

Decision
──────────────────────────
[Approve] [Request Info] [Reject]
```

Every decision receives:

- actor
- timestamp
- reason
- audit record

---

9. Screen 07 — Verification Workbench

The verification officer sees a prioritised queue.

```
VERIFICATION QUEUE

URGENT
12 applications

TODAY
38 applications

OVERDUE
7 applications

[Open Next]
```

Verification checklist:

- identity verified

- age eligible
- location eligible
- programme eligibility
- duplicate check
- supporting evidence
- consent/legal basis
- reviewer decision

---

10. Screen 08 — Selection Board

Used by authorised programme selection teams.

```
SELECTION BOARD

Cohort: Greater Accra / Electrical

Candidate       Score   Eligibility   Risk   Decision
──────────────────────────────────────────────────────
Candidate A      91%       ✓           Low     Select
Candidate B      87%       ✓           Low     Select
Candidate C      84%       ✓           Med     Review
Candidate D      76%       ✓           Low     Waitlist
```

Important:

- configurable criteria
- human approval
- conflict-of-interest declaration
- decision audit
- no opaque automated rejection

---

11. Screen 09 — Youth / Beneficiary Directory

```
YOUTH DIRECTORY

[Search name / ID / phone / reference]

Filters:
Region | District | Programme | Status | Age band

Youth ID     Programmes     Status       Last Activity
──────────────────────────────────────────────────────
Y-00124       3              Active       2 days ago
Y-00125       1              Completed    3 months ago
Y-00126       2              Follow-up    1 week ago
```

---

12. Screen 10 — Youth Profile / Journey Record

This is one of the most important screens.

```
YOUTH JOURNEY

[Identity] [Programmes] [Skills] [Credentials]
[Placements] [Business] [Cases] [Outcomes]

_____________________________________________

2026
● Employment confirmed
│
● Employer placement started
│
● Training completed
│
● Assessment passed
│
● Programme started
│
● Application approved

_____________________________________________

CURRENT STATUS
Employed

NEXT BEST ACTION
Complete 6-month employment follow-up
```

The page should show only information the current user is authorised to see.

---

13. Screen 11 — Youth Journey Timeline

A dedicated chronological view.

```
2026 ──────────────────────────────────────────

JAN   Application
FEB   Verification
MAR   Selected
APR   Training
MAY   Assessment
JUN   Credential
JUL   Employer match
AUG   Placement
SEP   Employment
```

Clicking an event opens:

- event source
- timestamp
- programme
- location
- actor
- verification status
- evidence reference

14. Screen 12 — Cohort Management

```
COHORT 2026-A

Programme: Electrical Apprenticeship
Centre: YLSTI / Approved Centre
Capacity: 120
Enrolled: 114
Active: 109
Completed: 96

[Participants] [Attendance] [Schedule]
[Assessments] [Issues]
```

15. Screen 13 — Attendance

```
ATTENDANCE — 08 SEP

Participant      Status
_____________________
Youth 001        Present
Youth 002        Present
Youth 003        Absent
Youth 004        Excused
Youth 005        Absent

[Mark all present]
[Submit]
```

Anomaly indicators:

- repeated absence
- impossible attendance
- duplicate attendance
- late submissions

16. Screen 14 — Field Operations Command Centre

```
FIELD OPERATIONS

Today's Tasks                 Region Map

18 Verifications              ●●●●
12 Follow-ups                 ●●●
7 Centre Visits               ●●
4 Employer Visits             ●

Officer workload
──────────────────────────────
Officer A   12 tasks
Officer B    8 tasks
Officer C    6 tasks
```

Map should support:

- region
- district
- training centre
- beneficiary cluster
- programme activity
- task location

---

17. Screen 15 — Field Officer Mobile Home

Mobile-first.

```
GOOD MORNING

Today's Tasks
─────────────────

12  Verify beneficiaries
 4  Centre visits
 7  Follow-ups
 2  Employer visits

[START FIELDWORK]

Sync status:
✓ Last synced 08:41
3 records waiting
```

---

18. Screen 16 — Field Beneficiary Verification

```
VERIFY BENEFICIARY

Programme
Participant
Location

Identity verification
[Verified]

Eligibility
[✓]

Attendance
[✓]

Interview
[Start]

Evidence
[Capture]

Notes
[_________________]

[Save Offline]
[Submit]
```

19. Screen 17 — Field Visit

```
CENTRE VISIT

Centre: Example Training Centre

Checklist
_________________
Facility condition       ✓
Equipment                ⚠
Trainer present          ✓
Attendance records       ✓
Safety                   ✓

Photos / Evidence
[Capture]

Issues
[Add issue]

[Submit Visit]
```

20. Screen 18 — Offline Sync Centre

```
OFFLINE MODE

Stored locally:
12 attendance records
4 beneficiary updates
2 case notes
1 centre inspection

Connection: OFFLINE

[Sync when online]
```

After reconnection:

```
SYNC COMPLETE

19 records uploaded
18 accepted
1 requires review

[View conflict]
```

---

21. Screen 19 — Case Management Dashboard

```
CASES

Open        124
Urgent       12
Overdue      18
Resolved    842

Category
_________________
Employment barrier
Training barrier
Accessibility
Documentation
Business support
Safeguarding
Referral
```

---

22. Screen 20 — Case Workspace

```
CASE #C1029

Status: OPEN
Priority: HIGH

Issue
Participant cannot continue training
because of transport barrier.

Needs Assessment
_____________________

Actions
_____________________
✓ Contacted participant
○ Referred to support service
○ Follow-up
○ Resolve

Notes
[____________________]

[Save]
```

Sensitive information should be restricted to authorised case staff.

---

23. Screen 21 — Referral

```
CREATE REFERRAL

Participant
Case

Referral category
[Employment ▼]

Destination
[Approved service ▼]

Reason
[________________]

Urgency
○ Normal
○ High
○ Critical

Consent / legal basis
[Recorded]

[Create Referral]
```

---

24. Screen 22 — Mentorship

```
MENTORSHIP

Active mentors       1,284
Active relationships 8,420
Overdue sessions       312

Mentor       Youth      Sessions
──────────────────────────────
Mentor A     Youth 001    4
Mentor B     Youth 002    2
```

25. Screen 23 — Mentor Workspace

```
MENTEE: YOUTH 001

Goal
Employment in digital services

Progress
██████████▒ 82%

Sessions
1. Career planning ✓
2. CV review ✓
3. Interview prep ✓
4. Employer strategy ○

Next action
Schedule interview preparation

[Record Session]
```

26. Screen 24 — Employer Portal Home

> ⚠ ***Overlap with GLMIS — recommended for removal.*** *Employer registration and vacancy posting are already*
> *provided nationally by the Ghana Labour Market Information System (glmis.gov.gh), run by the Labour Department*
> *under the Ministry of Labour, Jobs and Employment. NYA-YOP should consume GLMIS employer and vacancy records*
> *rather than rebuild them. Retain only the NYA-specific steps: shortlisting programme completers, confirming*
> *the placement actually started, and verifying retention at 3, 6 and 12 months.*

```
EMPLOYER PORTAL

Open Talent Requests       8
Candidates                 42
Interviews                 15
Active Placements          21

[Request Talent]

Recent
──────────────────────────
Electrical technician — 5 candidates
Digital support — 8 candidates
Hospitality — 12 candidates
```

---

27. Screen 25 — Employer Talent Request

> ⚠ ***Overlap with GLMIS — recommended for removal.*** *Deep-link to GLMIS vacancy posting instead.*

```
REQUEST TALENT

Role
Location
Number required

Required skills
[Search skills...]

Qualification
Experience
Salary band
Start date

[Find Candidates]
```

---

28. Screen 26 — Candidate Matching

> ⚠ ***Reframe.*** *This is not a general job-matching engine — GLMIS already performs national matching. Reframe as programme-completer shortlisting against GLMIS vacancies: NYA's contribution is that it can evidence verified training completion, assessed skills and field-officer knowledge of the candidate.*

```
MATCHED CANDIDATES

Candidate       Match    Skills    Location
──────────────────────────────────────────
Youth 001         94%      96%       90%
Youth 002         91%      93%       88%
Youth 003         87%      90%       82%

[View Profile]
[Shortlist]
```

The system should explain the match:

```
Why 94%?
✓ Required skills
✓ Qualification
✓ Location
✓ Programme completion
✓ Workplace experience
```

29. Screen 27 — Placement Workspace

```
PLACEMENT #P1021

Youth: Youth 001
Employer: Company A
Role: Technician

Start date: 01 Aug 2026

Status
✓ Interview
✓ Offer
✓ Placement started
○ 3-month retention
○ 6-month retention

Employer feedback
[Record]
```

30. Screen 28 — Employment Outcome

```
EMPLOYMENT OUTCOME

Participant
Programme
Employer
Role

Employment status
[Confirmed]

Start date
Duration

Verification
○ Youth report
○ Officer verification
● Employer verification
○ System-linked

Evidence
[Reference]

[Confirm Outcome]
```

31. Screen 29 — Entrepreneurship Dashboard

```
ENTREPRENEURSHIP

Ideas                  8,210
Businesses launched    4,180
Active businesses      3,410
Jobs created           7,820

Survival
3 months      91%
6 months      84%
12 months     71%
```

---

32. Screen 30 — Business Profile

```
BUSINESS

Business: Example Enterprise
Founder: Youth 001
Sector: Agribusiness
Location: Northern Region

Status: ACTIVE

Funding
Training
Mentorship
Customers
Revenue band
Employees
Jobs created

Timeline
_________________
Training
Funding
Launch
First customer
First employee
12-month review
```

---

33. Screen 31 — Volunteer Dashboard

```
VOLUNTEER PROGRAMME

Registered        24,210
Active            16,820
Hours completed  420,320
Placements         8,210

Modules
Health
Environment
Governance
Agriculture
Education
Technology
Arts & Culture
```

34. Screen 32 — Volunteer Activity

```
ACTIVITY

Volunteer
Organisation
Location
Date
Activity
Hours
Supervisor

Community impact
[_________________]

[Submit]
```

35. Screen 33 — Training Centre Dashboard

```
TRAINING CENTRE

Cohorts              8
Trainees           312
Attendance          91%
Completion          84%
Assessment          78%

Alerts
_____________________
⚠ Equipment shortage
⚠ 12 repeated absences
✓ Trainer coverage complete
```

36. Screen 34 — Assessment

```
ASSESSMENT

Cohort
Skill / qualification
Assessment date

Participants

Youth 001     Pass
Youth 002     Pass
Youth 003     Re-assess
Youth 004     Pass

[Submit Results]
```

Formal certification should remain with the authorised certification body.

---

37. Screen 35 — Outcomes Command Centre

```
OUTCOMES

Training completion       78%
Certification             64%
Placement                 57%
Employment                49%
Business survival         71%
Outcome verified          82%

[View by region]
[View by programme]
[View by cohort]
```

---

38. Screen 36 — Outcome Cohort Analysis

```
COHORT: 2026-A

Reach                    1,200
Completed                  980
Certified                  760
Placed                     620
Employed                   510
12-month retained          402

Drop-off
Completion → Certification: 220
Certification → Placement: 140
Placement → Employment:     110
```

This identifies where intervention is required.

---

39. Screen 37 — Equity & Inclusion Dashboard

Dimensions:

- gender
- age band
- disability/accessibility
- region
- district
- urban/rural
- programme

Example:

```
Participation
Women              48%
Men                51%
Other/unknown       1%

Rural participation
38%

PWD participation
4.2%
```

Use only attributes that are necessary, lawful, ethically appropriate and adequately protected.

---

40. Screen 38 — Data Quality Command Centre

```
DATA QUALITY

Overall score                 92%

Completeness                  94%
Accuracy                      91%
Timeliness                    88%
Uniqueness                    97%
Validity                      91%

Problems
──────────────────────────────
2,410 missing outcome records
  320 duplicate candidates
  118 late attendance uploads
   47 invalid location records
```

---

41. Screen 39 — Data Quality Issue

```
DATA ISSUE #DQ291

Type: Duplicate participant

Possible matches:
Y-00123
Y-00842

Similarity: 94%

Evidence:
Name
Phone
Location
Programme

[Merge]
[Keep Separate]
[Escalate]
```

All merges must be audited.

---

42. Screen 40 — Reports Centre

```
REPORTS

Executive
Programme Performance
Regional Performance
District Performance
Field Activity
Training
Employment
Entrepreneurship
Volunteer
Equity
Data Quality
Partner
```

Export:

- PDF
- spreadsheet
- CSV
- approved API/data feed

Exports must respect access permissions.

---

43. Screen 41 — Report Builder

```
CREATE REPORT

Dataset
[Programme Outcomes ▼]

Dimensions
☑ Region
☑ District
☑ Gender
☑ Programme

Measures
☑ Completion
☑ Placement
☑ Employment

Period
[Jan 2026] – [Sep 2026]

[Preview]
[Save]
[Schedule]
```

---

44. Screen 42 — Partner Dashboard

```
PARTNER PROGRAMME

Target participants     10,000
Reached                   8,920
Completed                 7,410
Placed                    4,120
Outcomes                  3,240

Budget milestones
✓ Milestone 1
✓ Milestone 2
○ Milestone 3

[Reports]
[Evidence]
```

Partners should not automatically see the entire youth record.

---

45. Screen 43 — Integration Centre

```
INTEGRATIONS

YouthXplore          CONNECTED
OMCP                 CONNECTED
NAP                  CONNECTED
YEA                  CONNECTED
NEIP                 PLANNED
CTVET                PLANNED
NSA                  PLANNED
Youth Tracker        CONNECTED
NIA                  AUTHORISED
```

Each integration shows:

- status
- last sync
- records exchanged
- errors
- API version
- owner
- SLA

---

46. Screen 44 — Integration Detail

```
OMCP INTEGRATION

Status: HEALTHY

Last sync: 08 Sep 2026 08:42
Records received: 18,421
Records sent: 4,210
Errors: 3

Events
──────────────────────
TrainingCompleted
CredentialRecorded
ParticipantUpdated

[View Logs]
[Retry]
[Reconcile]
```

---

47. Screen 45 — Event Monitor

```
EVENT STREAM

08:42 TrainingCompleted
08:42 CredentialRecorded
08:41 PlacementStarted
08:40 ApplicationVerified
08:39 FollowUpCompleted

Filter:
Source | Event | Programme | Status
```

Useful for interoperability troubleshooting and audit.

---

48. Screen 46 — Audit Log

```
AUDIT LOG

Time        User        Action
_____________________________________

08:41       Officer A   Verified A1023
08:39       Manager B   Approved cohort
08:31       Admin       Role updated

[View details]
```

Audit records should be tamper-resistant and retained according to policy.

---

49. Screen 47 — Administration / Roles

```
ROLES

CEO
Director
Programme Manager
Regional Officer
District Officer
Field Officer
Case Worker
Training Centre
Employer
Partner
Analyst
System Administrator
```

Permissions should be granular.

Example:

```
Field Officer
✓ View assigned beneficiaries
✓ Record attendance
✓ Create cases
✓ Submit evidence
✗ Export national dataset
✗ Change programme eligibility
✗ View restricted case categories
```

---

50. Screen 48 — Notification Centre

```
NOTIFICATIONS

12 new
──────────────────────────

⚠ 7 verification tasks overdue
✓ Cohort A completed training
⚠ Placement outcome missing
✓ Partner report submitted
```

Notification preferences should be configurable by role.

---

51. Screen 49 — Executive AI Assistant

The AI assistant sits inside the executive workspace.

```
ASK NYA-YOP

"Which programmes have the best
12-month employment outcomes?"

──────────────────────────────

Based on verified records:

1. Programme A — 64%
2. Programme B — 58%
3. Programme C — 52%

The largest bottleneck is placement
in three regions.

[View evidence]
[Open analysis]
```

AI responses must show:

- source data
- date range
- confidence/limitations
- definitions
- links to underlying records where authorised

52. Screen 50 — Officer AI Assistant

```
TODAY'S PRIORITIES

1. Verify 12 beneficiaries
2. Follow up 7 participants
3. Review 4 attendance anomalies
4. Visit Centre A

WHY?

Three participants have repeated
absences and are at elevated risk
of dropping out.

[Review participants]
```

AI recommendations remain advisory.

53. Screen 51 — YouthXplore → NYA-YOP Handoff

The youth should experience one journey even though multiple systems exist.

```
YOUTHXPLORE

Opportunity discovered
       ↓
Application submitted
       ↓
NYA-YOP receives application
       ↓
Verification
       ↓
Programme participation
       ↓
Outcome data
       ↓
YouthXplore displays status
```

The user should not have to repeatedly re-enter information that can legally and securely be reused.

54. Screen 52 — Youth Status / Journey API View

A controlled representation for the youth-facing layer:

```
YOUR JOURNEY

✓ Application submitted
✓ Identity verified
✓ Selected
✓ Training started
✓ Training completed
○ Employer matching
○ Employment confirmation

NEXT STEP
Complete your employer profile
```

---

55. Screen 53 — Youth Support Request

```
NEED HELP?

What do you need help with?

○ My application
○ Training
○ Transport / participation
○ Employment
○ Business
○ Accessibility
○ Other

Describe
[_____________________]

Preferred contact
○ SMS
○ Phone
○ App

[Submit Request]
```

This creates a case in NYA-YOP.

---

56. Screen 54 — Programme Performance Drilldown

Executive can click:

```
Programme
 ↓
Region
 ↓
District
 ↓
Centre
 ↓
Cohort
 ↓
Participant
```

Example:

```
National
  ↓
Northern Region
  ↓
District A
  ↓
Training Centre B
  ↓
Cohort 2026-A
  ↓
Dropout rate 18%
```

This creates an evidence chain from national KPI to field action.

---

57. Screen 55 — Bottleneck Explorer

```
WHERE ARE YOUTH GETTING STUCK?

Application → Verification       4 days
Verification → Selection         7 days
Selection → Training             9 days
Training → Certification        21 days
Certification → Placement       34 days
Placement → Employment          18 days
```

The platform highlights the largest delay.

---

58. Screen 56 — Geographic Opportunity / Outcome Grid

This is an internal analytical map, not another youth marketplace.

```
REGION / DISTRICT

                Training   Jobs   Businesses
District A        High      Low      Medium
District B        High      High     High
District C        Low       Medium   Low
```

It helps NYA determine where programme supply and youth outcomes are misaligned.

---

59. Screen 57 — Employer Demand vs Youth Supply

> ⚠ ***Reframe.*** *Demand-side data should come from GLMIS, not be independently collected. This screen becomes*
> *NYA training-supply planning overlaid on GLMIS demand data.*

```
SKILLS MARKET

Skill                    Demand    Available
──────────────────────────────────────────────
Cybersecurity              820        410
Electrical               1,120        980
Welding                    640        720
Data analysis              540        380
Hospitality              1,400      1,210
```

This can inform:

- programme design
- training capacity
- employer engagement
- placement strategy

---

60. Screen 58 — Programme Intervention Planner

When a bottleneck is identified:

```
BOTTLENECK

Placement rate below target
Region: Region X

Possible interventions

□ Employer outreach
□ Additional career coaching
□ Curriculum adjustment
□ Transport support
□ Placement officer allocation

Owner
Deadline
Expected result

[Create Intervention]
```

---

61. Screen 59 — Intervention Tracking

```
INTERVENTION #I102

Problem
Low placement

Action
Employer outreach campaign

Owner
Regional Placement Officer

Target
+15% placement

Progress
██████████▒▒ 82%

Result
Placement +11%

[Close Intervention]
```

This turns analytics into management action.

---

62. Screen 60 — National Youth Outcome Story

A high-level executive storytelling view.

```
FROM SUPPORT TO OUTCOME

1,000,000
Youth reached
       ↓
720,000
Completed programmes
       ↓
480,000
Certified / skilled
       ↓
310,000
Placed / launched
       ↓
240,000
Verified sustained outcomes
```

Leadership can drill down into each number.

---

63. Mobile Navigation

Field mobile navigation:

```
┌──────────────────────┐
│ NYA-YOP              │
│                      │
│  Today's Tasks       │
│  Beneficiaries       │
│  Attendance          │
│  Visits              │
│  Cases               │
│  Evidence            │
│                      │
│  Sync: ✓             │
└──────────────────────┘
```

Bottom navigation:

```
Home | Tasks | People | Cases | More
```

---

64. Responsive Behaviour

Desktop

Optimised for:

- executive dashboards
- tables
- analytics
- programme administration

Tablet

Optimised for:

- regional/district work
- centre management
- field coordination

Mobile

Optimised for:

- field work
- attendance
- verification
- case notes
- evidence
- offline operation

---

65. Design System

Typography

- highly readable sans-serif
- large numerical KPI typography
- clear heading hierarchy
- minimum accessible contrast

Components

- KPI cards
- data tables
- filters
- timelines
- maps
- status chips
- workflow steps
- drawers
- modals
- notification panels
- evidence cards

Status vocabulary

```
DRAFT
PENDING
IN REVIEW
VERIFIED
APPROVED
ACTIVE
COMPLETED
OVERDUE
ESCALATED
CLOSED
```

Avoid ambiguous colour-only status indicators.

---

66. Global Search

Search should support:

```
Youth
Programme
Application
Employer
Centre
Case
Placement
Business
Outcome
```

Example:

```
Search: "Youth 001"

Results
_____________________
Youth profile
3 applications
2 programmes
1 placement
1 case
1 outcome
```

---

67. Global Action Menu

Pressing +:

```
CREATE

New Programme
New Cohort
New Application
New Beneficiary
New Case
New Referral
New Employer Request
New Placement
New Follow-up
New Report
```

Actions shown depend on role.

---

68. Evidence Viewer

Every important outcome should be traceable.

```
OUTCOME EVIDENCE

Employment confirmed

Source:
Employer portal

Submitted:
01 Sep 2026

Verified:
03 Sep 2026

Evidence reference:
EV-10293

Verification level:
Third-party verified
```

Sensitive evidence should never be broadly accessible.

---

69. Accessibility / Inclusive UX

Every major workflow should support:

- keyboard navigation
- screen readers
- visible focus states
- accessible forms
- large touch targets
- clear error messages
- text alternatives
- simple language
- low-bandwidth operation

Field interfaces should minimise typing.

---

70. Recommended MVP Screens

Do not build all 69 screens at once.

Release 1

1. Executive Overview
2. Programme Portfolio
3. Programme Workspace
4. Programme Creation
5. Application Queue
6. Application Review
7. Verification Workbench

8. Selection Board
9. Youth Directory
10. Youth Journey Record
11. Cohort Management
12. Attendance
13. Field Operations
14. Field Mobile Home
15. Beneficiary Verification
16. Case Dashboard
17. Placement Workspace
18. Outcome Dashboard
19. Data Quality
20. Reports
21. Integrations
22. Administration

Screens missing from this specification (add to Release 1)

These were identified in review as required for a platform that handles public money, minors and adverse decisions:

1. **Disbursement Run** — period, eligible/ineligible counts, exception queue, maker–checker–approver states, payment file status
2. **Payment Exception** — beneficiary, gate failure reason, evidence, decision, appeal link
3. **Master Craftsperson / Workplace Profile** — accreditation, apprentice slots, inspection history, safeguarding clearance
4. **Grievance Workspace** — challenge to a decision, SLA clock, reviewer, appeal stage, outcome
5. **Consent & Legal Basis Register** — per person and purpose, notice version, capture method, withdrawal
6. **Safeguarding (restricted tier)** — separate access model, minor flag, mandatory-report state; not reachable from the ordinary case list
7. **Verification Ladder** on the youth profile — current tier V0–V3, route to upgrade, blocking implications
8. **Officer Workload & Time** — tasks per officer per day and time per task; the adoption early-warning screen
9. **Integration Reconciliation** — records sent vs accepted vs rejected per partner, with unresolved differences ageing
10. **Sync Conflict Resolution** — Screen 18 promises "[View conflict]" but never designs the resolution

Also apply across existing screens: an explicit **evidence level chip (A/B/C/D)** wherever an outcome appears, and a **"why am I seeing this"** disclosure on the Executive AI Assistant so every figure carries its filter and date range.

Release 2

- mentorship
- employer portal
- entrepreneurship
- volunteer management
- advanced field inspections
- intervention planner

- advanced analytics

Release 3

- AI assistants
- predictive analytics
- advanced skill-demand intelligence
- expanded interoperability
- advanced USSD/IVR

---

71. Prototype Priority

If the proposal is being demonstrated to NYA leadership, prototype these screens first:

1. EXECUTIVE OVERVIEW

Shows strategic value.

2. YOUTH JOURNEY RECORD

Shows the central innovation.

3. PROGRAMME WORKSPACE

Shows operational management.

4. FIELD MOBILE

Shows last-mile delivery.

5. PLACEMENT / OUTCOME

Shows the shift from activities to outcomes.

6. DATA QUALITY

Shows institutional seriousness.

7. INTEGRATION CENTRE

Shows that the platform complements existing systems.

---

72. Ideal Demo Story

A CEO demonstration should follow one person.

```
YOUTHXPLORE
    ↓
Youth discovers opportunity
    ↓
Application
    ↓
NYA-YOP
    ↓
Verification
    ↓
Selection
    ↓
Training
    ↓
Attendance
    ↓
Assessment
    ↓
Placement
    ↓
Employment
    ↓
Follow-up
    ↓
Verified outcome
    ↓
YOUTH TRACKER
    ↓
National intelligence
```

Then show the executive dashboard:

> *"This young person's journey is one record inside thousands of journeys. The CEO can see where the system is succeeding and where it is failing."*

---

73. Final Product Principle

The platform should answer four questions at every level:

YOUTH

> *What is my next step?*

OFFICER

> *What do I need to do today?*

PROGRAMME MANAGER

> *Where is my programme failing?*

EXECUTIVE

> *What outcomes are Ghana's youth programmes producing?*

That is the screen-by-screen product logic of NYA-YOP.

---

74. Addendum — the ten screens the review found missing

The independent review (Review Pack D15) listed ten screens that a platform handling public money, minors and adverse decisions cannot do without. All ten are specified below and are built in the prototype. Numbering continues from Screen 60. As everywhere in this specification, every figure is illustrative wireframe data.

---

75. Screen 61 — Disbursement Run

Purpose

The screen that pays for the platform. Attendance recorded in the field decides who is paid; three different people must sign; nothing leaves without reconciliation.

Idle state

```
DISBURSEMENT RUN — NAP allowance, August 2026

Rule       GHS 400 payable where verified attendance ≥ 80% of
           scheduled days in the period AND beneficiary is at tier V3
Period     1 – 31 August 2026
Cohort     NAP 2026-A · Northern Region
On roll    1,148

[Run eligibility gate]
```

After the gate

```
On roll 1,148   Passed 1,142 (GHS 456,800)   Exceptions 6 (4 blocking)   Withheld GHS 2,400

EXCEPTION QUEUE
Ref     Beneficiary        Reason                                        Amount   Status
E-1041  Nuhu Salifu        Attendance 62% — below the 80% gate           400      blocked
E-1042  Adiza Mahama       Tier V2 — cash payment requires V3            400      blocked
E-1043  Eric Ofosu         Marked present at two centres on 04 Sep       400      blocked
E-1044  Comfort Baidoo     Attendance 78% — two days short · appeal open 400      review
E-1045  Musah Yakubu       Duplicate register entry, same officer/minute 400      blocked
E-1046  Grace Tetteh       Mobile money account name mismatch            400      review

APPROVAL CHAIN                        Acting as: [Adjoa Nyarko — Programme Officer (maker) ▼]
1  Maker    — prepares the run          [Sign as maker]
2  Checker  — independent finance review   waiting
3  Approver — authorises payment           waiting
```

Rules the screen enforces

- The chain runs in order. A step cannot be signed until the previous one is.
- One person cannot hold two roles in the same run. If the signed-in user has already signed another step, the button is replaced by **blocked — same person**.
- A conflict-of-interest declaration is recorded with the approver's signature.
- Attendance is immutable once the gate has run. Corrections are new records with a reason.

- After the approver signs: **Generate payment file** (one reference per beneficiary) → **Reconcile to channel and GIFMIS** → returned payments open recovery cases automatically.
- Every blocked beneficiary is notified by SMS with the reason and a way to appeal (Screen 64).

Events emitted

`EligibilityGateRun` · `FundingApproved` · `PaymentInstructed` · `PaymentReconciled` · audit entries for every signature.

---

76. Screen 62 — Payment Exception

```
PAYMENT EXCEPTION E-1044

Beneficiary     Comfort Baidoo · Y-00455 · NAP 2026-A
Gate failure    Attendance 78% — two days short of the 80% gate
Evidence        Register scans 21–22 Aug · officer arrived late; participant present
Tier            V3
Amount          GHS 400 withheld

Decision
○ Uphold the gate result
○ Release in the next run (new record, with reason)
○ Refer to grievance review — C1040

Reviewer        Must not have been involved in the original decision
[Record decision]
```

Every decision is audited. A release never edits the gate result; it creates a new payment instruction with a reason.

---

77. Screen 63 — Master Craftsperson / Workplace Profile

```
WORKPLACES & MASTER CRAFTSPERSONS                    Savannah Skills Centre, Tamale

Craftsperson            Trade · workplace            Ref                 Slots  Inspection
Safeguarding      Payment
Alhaji Seidu Mahama     Electrical · Tamale market   NAP-MC-2024-0412    4/6    08 Sep ✓
Cleared Mar 27    Aug paid
Madam Fati Abdulai      Welding · Sagnarigu          NAP-MC-2023-0388    3/3    27 Aug ✓
Cleared Jan 27    Aug paid
Mr Kwame Asante         Auto mechanics · Savelugu    registration pending 2/4   14 Jul ⚠
EXPIRED 31 Aug    Aug HELD
Auntie Grace Naa        Dressmaking · Tamale Metro   NAP-MC-2022-0290    5/5    02 Sep ✓
Cleared Jun 27    Aug paid
```

Detail panel: accreditation reference, apprentice slots used/total, last inspection and outcome, safeguarding clearance and expiry, craftsperson stipend status, the tripartite placement agreements (youth + workplace + NYA) and notes. Actions: request more slots (approved only after an inspection), schedule inspection (becomes a field task), request safeguarding renewal.

Rule shown on screen: no apprentice under 18 is placed where clearance has lapsed, and the craftsperson stipend is held until clearance and any overdue inspection are complete.

78. Screen 64 — Grievance Workspace

```
GRIEVANCE C1040 — payment decision              SLA · decision due within 48 h

Challenged decision   August allowance withheld — attendance 78% (gate 80%)
Channel               SMS reply · 11 Sep 2026
Reviewer              Independent — regional M&E (not involved in the original decision)
Appeal stage          First review

Evidence submitted    Register scans 21–22 Aug; officer late; participant present

Actions
✓ Contacted participant            11 Sep
○ Referred to independent reviewer
○ Follow-up
○ Resolve — upheld / released

[Refer to reviewer] [Record outcome]
```

Grievances live in the case system with a distinct category, an SLA clock and a reviewer-independence rule. If upheld, the payment is released in the next run as a new record with a reason. Closure requires evidence.

79. Screen 65 — Consent & Legal-Basis Register

```
CONSENT & LEGAL-BASIS REGISTER

Person     Purpose                                  Lawful basis                Notice
Captured                          Status
P-···124   Programme participation · SkillsConnekt  Consent + statutory (Act 939) v3.1 ·
English + Dagbani  In person · witnessed · 10 Jan    Active
P-···124   Employer matching · outcome follow-up    Consent                     v3.1
App · 18 Mar                      Active
P-···087   Programme participation · Youth Innovate Consent + statutory          v3.0 ·
English + Twi read-aloud  In person · 05 Feb         Active
P-···442   Application processing                   Consent                     v3.1
USSD · 28 Aug                     Active · correction pending
P-···204   Outcome survey                           Consent                     v3.0
SMS · 14 Feb                      Withdrawn 07 Sep
```

One row per person and purpose. Records the notice version, the capture method (in person, USSD, app, SMS), the witness where captured in person, and withdrawal. Designed to the Data Protection Bill 2025: location, photographs and voice are treated as personal data with their own purpose rows.

80. Screen 66 — Safeguarding (restricted tier)

```
CASES                                          Safeguarding cases requiring escalation   1
[restricted]
```

The ordinary case list shows a **count only**. Opening a safeguarding record requires the safeguarding role; the record has its own access model, a minor flag, a mandatory-report state, a referral and a separate retention rule.

A district officer sees that something needs attention without seeing the content. Everything that happens in the restricted tier is audited separately, and the only action available outside it is **Escalate to the regional safeguarding lead**.

---

81. Screen 67 — Verification Ladder (on the youth profile)

```
VERIFICATION LADDER · currently V2

✓ V0  Self-asserted       Registration and expression of interest only. Cannot receive a
payment.
✓ V1  Officer-attested    Participation in non-cash programmes.
● V2  Document-checked    Provisional, time-limited payment eligibility. Cash payments require
V3.
○ V3  NIA-verified        Full eligibility, including stipend and grant disbursement.

Route to upgrade: verify through the NIA Identity Verification Service → V3.
Only the verification reference is stored — never the card.
```

The tier is shown as a chip wherever a person appears (directory, application queue, field verification). On the phone, the field verification screen offers **Verify with NIA → V3**, **Confirm in person → V1** and **No Ghana Card — open support case**, the last of which opens an assisted Ghana Card acquisition case: a blocker converted into a service NYA visibly provides.

---

82. Screen 68 — Officer Workload & Time

```
OFFICER WORKLOAD                          Northern Region · today

Kojo Mensah · Field Officer       ██████████  25 tasks · 11 min/task
S. Adamu · Field Officer          ████████    19 tasks ·  4 min/task   ⚠ flagged
K. Abdulai · District Officer     ███          9 tasks · 18 min/task
H. Alhassan · Field Officer       ██           7 tasks · 13 min/task
```

Time per task is the adoption early-warning signal. If the app adds net work per beneficiary it will not be used, whatever the mandate says. Statistical outliers — an officer clearing tasks in four minutes and submitting 100% present for 60 participants — are flagged and auto-sampled for independent re-verification by a different officer.

---

83. Screen 69 — Integration Reconciliation

```
RECONCILIATION AGEING                     BOUNDARIES HELD
0–2 days        4 unresolved              NIA     issues identity — we store a reference
3–7 days        1 unresolved              CTVET   issues credentials — we record them
Over 7 days     0                         GLMIS   owns vacancies — we consume them
                                          GIFMIS  owns spend — we reconcile to it
                                          Tracker owns intelligence — we feed it
```

Per partner: records sent, accepted and rejected, with unresolved differences ageing. Without this view, an integration failure is discovered by an executive noticing that a number looks wrong.

---

84. Screen 70 — Sync Conflict Resolution (mobile)

```
SYNC — 1 record needs review

Kofi Adjei was marked ABSENT on this phone at 09:14 and PRESENT at
Tamale approved centre B by Officer S. Adamu at 09:02. Both cannot be true.

This device   Absent · Savannah Skills Centre · 09:14 · K. Mensah
Server        Present · Centre B · 09:02 · S. Adamu

[Keep mine and flag for investigation]
[Accept the server record]
[Escalate to district coordinator]

Neither record is deleted. The rejected one stays in the audit trail with the reason and the
person who decided.
```

Keeping the device record raises a data-quality issue (impossible attendance) and a notification; escalating holds the record pending the coordinator's decision. The sync then completes: *26 records uploaded · 25 accepted · 1 conflict kept with reason*.

---

85. Applied across existing screens

- An **evidence-level chip (A/B/C/D)** appears wherever an outcome appears, including every event on the youth journey timeline; clicking an event opens its source, actor, evidence level, consent reference and immutable audit ID.
- Every screen carrying numbers is labelled **Illustrative data**.
- The Executive AI Assistant shows **Based on / Date range / Limitations** under every answer — "why am I seeing this" for every figure.
- The employer surface (Screens 24–28) is **GLMIS-fed**: vacancies and employer registration live on GLMIS; NYA-YOP shortlists NYA programme completers against a GLMIS vacancy reference, and the employer confirms placement and retention — the evidence GLMIS cannot collect.
- Screen 57 is reframed as **NYA supply planning against GLMIS demand data**.

PART VII — API, SECURITY & INTEROPERABILITY SPECIFICATION

Status: Recommended specification · aligned to Blueprint v2 **Working name:** NYA Youth Operations Platform (NYA-YOP)

---

1. Purpose and Scope

Parts I–VI establish *what* NYA-YOP does and *what it looks like*. Part VII establishes *how it can be trusted*: the contracts, security controls and interoperability rules that let NYA exchange programme data safely, predictably and auditably with the institutions around it — and publish trustworthy events into the National Youth Tracker.

This part should be read by:

- integration engineers at NYA, MYDE (Youth Tracker and YouthXplore), the Labour Department (GLMIS), NIA, CTVET, OMCP, the payment channel and the Controller and Accountant-General's Department (GIFMIS)
- the security, privacy and compliance review team — including whoever answers to the Cyber Security Authority and the Data Protection Commission
- the steering committee (Part IV §51) when approving API governance

Nothing here is a final contract. Every endpoint, event and field is a **conceptual specification** to be ratified institution-by-institution during discovery and the 90-day proof. Where an institution has a published standard — NIA's Identity Verification Service Platform, NITA's e-Government Interoperability Framework, GIFMIS integration standards — that standard wins.

---

2. API Design Principles

1. **Resource-oriented REST** as the default; events for anything asynchronous or high-volume.
2. **One canonical representation per resource** — a `Person`, an `Outcome`, a `PaymentInstruction` mean the same thing everywhere they appear.
3. **Additive, backward-compatible change** — new fields are optional; breaking changes require a new major version.
4. **Explicit authorisation on every call** — no endpoint is implicitly public.
5. **Data minimisation by default** — an integration receives only the fields its declared purpose requires, never the full record.
6. **Idempotent writes** — every state-changing call carries an idempotency key; a payment instruction can never be created twice.
7. **Everything auditable** — every read and write of personal data is logged with actor, purpose and timestamp; every signature in the money chain is a separate audit record.
8. **Explainable, not opaque** — shortlisting, scoring and ranking endpoints return the reasons behind a result, not just a number. No endpoint makes an adverse decision on its own.
9. **Boundaries held** — NIA issues identity, CTVET issues credentials, GLMIS owns vacancies, GIFMIS owns spend, the Youth Tracker owns intelligence. NYA-YOP stores references and reconciles; it does not become a second system of record for any of them.

---

3. API Maturity & Versioning Strategy

```
/api/v1/...   current stable contract
/api/v2/...   introduced only for breaking changes; v1 kept live during a published
deprecation window
```

Rules:

- version lives in the URL path, not a header, so routing and logging stay simple
- a version is supported for a minimum published period (e.g. 18 months) after superseding
- deprecation is announced through the Integration Centre (Screen 43) and the developer portal, never silently
- the API contract conforms to NITA's e-Government Interoperability Framework; where e-GIF specifies a format or protocol, it is used as-is

---

4. Authentication & Authorisation Model

Two distinct flows:

```
HUMAN USERS                          SYSTEM-TO-SYSTEM (partner APIs)
     │                                        │
     ▼                                        ▼
OIDC / OAuth 2.0                     OAuth 2.0 Client Credentials
Authorization Code + PKCE            mTLS or signed JWT client assertion
     │                                        │
     ▼                                        ▼
Keycloak / approved gov IdP           API Gateway
     │                                        │
     ▼                                        ▼
Access token (short-lived)           Access token scoped to one
+ Refresh token                      integration + declared purpose
     │                                        │
     ▼                                        ▼
RBAC/ABAC policy engine              Per-partner scope allowlist
```

Every access token carries:

```
sub            (user or client id)
role(s)
region / district / programme scope
data-sensitivity clearance
segregation-of-duties class   (maker | checker | approver | none)
purpose (for system-to-system tokens)
issued_at / expires_at
```

MFA is mandatory for all privileged human roles (Programme Director and above, anyone in the money chain, System Administrator, Auditor). Partner system-to-system credentials are issued per integration, never shared, and rotated on a fixed schedule.

---

5. API Gateway Responsibilities

```
Request
   │
   ▼
TLS termination
   │
   ▼
Token validation
   │
   ▼
Scope / purpose check
   │
   ▼
Rate limiting
   │
   ▼
Schema validation
   │
   ▼
Routing to domain service
   │
   ▼
Response logging (metadata only, never full payload of sensitive fields)
```

The gateway is the single choke point for every external call — no domain service is reachable directly from outside the platform network.

---

6. Domain API — Persons and the Verification Ladder

```
GET    /api/v1/persons/{personId}
GET    /api/v1/persons/{personId}/journey
POST   /api/v1/persons
PATCH  /api/v1/persons/{personId}
POST   /api/v1/persons/match                    # duplicate / identity matching check —
returns candidates, never merges
POST   /api/v1/persons/{personId}/verification  # records a tier change: V0 → V1 → V2 → V3,
with method and evidence reference
GET    /api/v1/persons/{personId}/verification  # current tier, history, what it permits
POST   /api/v1/persons/{personId}/consent
GET    /api/v1/persons/{personId}/access-log
```

The verification resource stores **the result, not the document**: tier, method, verifying officer or system, NIA verification reference, timestamp. A V3 record never holds a card image. Downstream services read the tier to enforce the money rule — no payment above V1, no cash-equivalent payment below V3 — at the API layer, not in the UI.

`GET /journey` returns only the domains the caller is authorised to see (an employer never receives case, grievance, safeguarding or payment data).

---

7. Domain API — Programmes

```
GET    /api/v1/programmes
POST   /api/v1/programmes
GET    /api/v1/programmes/{programmeId}
PATCH  /api/v1/programmes/{programmeId}
POST   /api/v1/programmes/{programmeId}/submit          # maker: submit for approval
POST   /api/v1/programmes/{programmeId}/approve         # checker/approver: publish only after
approval
GET    /api/v1/programmes/{programmeId}/metrics
GET    /api/v1/programmes/{programmeId}/funnel
GET    /api/v1/programmes/{programmeId}/disbursement-rule
```

8. Domain API — Applications, Verification & Selection

```
POST   /api/v1/applications
GET    /api/v1/applications/{applicationId}
POST   /api/v1/applications/{applicationId}/verify
POST   /api/v1/applications/{applicationId}/request-information
POST   /api/v1/applications/{applicationId}/reject
GET    /api/v1/applications/{applicationId}/duplicate-check
POST   /api/v1/selection-boards
POST   /api/v1/selection-boards/{boardId}/decisions       # per-candidate decision with
reason; scored rank is advisory
POST   /api/v1/selection-boards/{boardId}/submit          # requires conflict-of-interest
declaration; approval is a separate actor
```

9. Domain API — Cohorts, Training, Attendance & Workplaces

```
POST   /api/v1/cohorts
GET    /api/v1/cohorts/{cohortId}
POST   /api/v1/cohorts/{cohortId}/participants
POST   /api/v1/attendance                                 # append-only; immutable once a
disbursement gate has consumed the period
POST   /api/v1/attendance/{recordId}/corrections          # a correction is a new record with a
reason, never an edit
GET    /api/v1/attendance/anomalies
POST   /api/v1/assessments
POST   /api/v1/credentials                                # records a credential REFERENCE, not
the certificate
GET    /api/v1/workplaces
POST   /api/v1/workplaces
GET    /api/v1/workplaces/{workplaceId}                   # master craftsperson, slots,
inspections, safeguarding clearance, payment status
POST   /api/v1/workplaces/{workplaceId}/inspections
POST   /api/v1/placement-agreements                       # tripartite: youth +
workplace/employer + NYA
```

10. Domain API — Disbursement Control

The money chain is a first-class API surface, because it is the largest fraud surface.

```
POST   /api/v1/disbursements/runs                          # period + programme rule → creates a
run in state GATE_PENDING
POST   /api/v1/disbursements/runs/{runId}/gate             # runs the eligibility gate: pass /
fail / exception, with reasons
GET    /api/v1/disbursements/runs/{runId}/exceptions
POST   /api/v1/disbursements/exceptions/{exceptionId}/decision   # uphold / release-in-next-
run / refer-to-grievance
POST   /api/v1/disbursements/runs/{runId}/sign             # body: role = maker | checker |
approver
POST   /api/v1/disbursements/runs/{runId}/payment-file     # only after the approver's signature
POST   /api/v1/disbursements/runs/{runId}/reconcile        # channel results per beneficiary;
GIFMIS reconciliation reference
GET    /api/v1/disbursements/runs/{runId}/recovery
```

Rules enforced by the service, not the client:

- `sign` is rejected when the caller's segregation-of-duties class does not match the role, when the previous role has not signed, or when the same person has already signed another role in the run
- `payment-file` is rejected for any beneficiary below tier V3, or above the programme's rule for non-cash support
- `gate` freezes the attendance records it consumed; later attendance for that period arrives only as corrections
- every call in this section writes an audit record with actor, role, reason and the run's conflict-of-interest declaration reference

---

11. Domain API — Cases, Referrals, Grievances & Safeguarding

```
POST   /api/v1/cases
GET    /api/v1/cases/{caseId}
PATCH  /api/v1/cases/{caseId}
POST   /api/v1/cases/{caseId}/notes
POST   /api/v1/referrals
POST   /api/v1/grievances                                  # challenge to a decision; SLA clock
starts; reviewer must be independent
POST   /api/v1/grievances/{grievanceId}/outcome
```

Safeguarding records are **not** exposed through the ordinary case endpoints. They live under a separate resource with its own scope (`safeguarding:restricted`); the ordinary case API returns a count and an escalation action only. The gateway rejects any token lacking the scope regardless of role.

---

12. Domain API — Placements, Employers & GLMIS

```
GET    /api/v1/glmis/vacancies/{vacancyRef}              # read-through to GLMIS; NYA-YOP
never posts a vacancy
POST   /api/v1/shortlists                                # programme completers shortlisted
against a GLMIS vacancy reference
GET    /api/v1/shortlists/{shortlistId}/candidates       # each candidate carries the reasons
behind the rank
POST   /api/v1/placements                                # confirmed by the employer or master
craftsperson
PATCH  /api/v1/placements/{placementId}
POST   /api/v1/placements/{placementId}/retention-check  # 3, 6, 12 months; the evidence level
is a required field
```

What NYA adds is the part GLMIS cannot see: whether the person NYA trained actually took the job, and whether it held.

---

13. Domain API — Entrepreneurship & Business

```
POST   /api/v1/businesses
PATCH  /api/v1/businesses/{businessId}
POST   /api/v1/businesses/{businessId}/registration      # stores the ORC registration
reference; releases the funding milestone
POST   /api/v1/businesses/{businessId}/funding           # tranche approval feeds the
disbursement run, not a separate payment path
POST   /api/v1/businesses/{businessId}/survival-check    # 3, 6, 12, 24 months; evidence level
required
```

---

14. Domain API — Volunteering

```
POST   /api/v1/volunteer-activities                      # supervisor confirmation required
before hours count
POST   /api/v1/volunteer-activities/{activityId}/hours
GET    /api/v1/volunteers/{personId}/summary             # hours, certificate eligibility,
post-volunteer pathway
```

---

15. Domain API — Outcomes

```
POST   /api/v1/outcomes
GET    /api/v1/outcomes/{outcomeId}
POST   /api/v1/outcomes/{outcomeId}/verify
GET    /api/v1/outcomes/summary          # filterable by programme, region, cohort, period;
returns C/D counts separately from A/B
```

Every outcome record carries an **evidence level** (A self-reported · B officer-verified · C third-party verified · D system-linked) as a required field. The summary endpoint never blends them: the Verified Conversion Rate is computed from C and D only, and the Outcome Verification Rate is returned alongside it.

---

16. Domain API — Analytics & Reports

```
GET    /api/v1/analytics/funnel
GET    /api/v1/analytics/bottlenecks
GET    /api/v1/analytics/data-quality
GET    /api/v1/analytics/vcr                                # verified conversion rate + outcome
verification rate, with date range and definitions
POST   /api/v1/reports
GET    /api/v1/reports/{reportId}/export                    # respects the caller's scope; small
cells suppressed
```

---

17. Youth Journey API (Aggregate)

The single most important read endpoint in the platform — and the representation YouthXplore shows to the young person:

```
GET /api/v1/persons/{personId}/journey
```

```
{
  "personId": "P-00124",
  "asOf": "2026-09-12T08:00:00Z",
  "verification": {"tier": "V3", "method": "NIA_IVSP", "reference": "nia-verif-ref-88213"},
  "programmes": [
    {
      "programmeId": "PRG-014",
      "name": "SkillsConnekt Digital Track",
      "status": "COMPLETED",
      "events": [
        {"type": "ApplicationSubmitted", "date": "2026-01-14", "evidence": "A", "source":
"YouthXplore"},
        {"type": "VerificationTierChanged", "date": "2026-01-20", "evidence": "D", "source":
"NIA IVSP"},
        {"type": "Selected", "date": "2026-01-24", "evidence": "B", "source": "NYA-YOP"},
        {"type": "TrainingCompleted", "date": "2026-02-20", "evidence": "B", "source": "NYA-
YOP"},
        {"type": "CredentialRecorded", "date": "2026-03-10", "evidence": "D", "source":
"CTVET"}
      ]
    }
  ],
  "outcomes": [
    {"outcomeType": "EMPLOYMENT", "status": "CONFIRMED", "evidenceLevel": "C", "confirmedAt":
"2026-07-01", "source": "Employer portal"}
  ],
  "visibleTo": "requesting_scope_only"
}
```

The response shape is fixed; the **content is filtered per caller** by the authorisation layer before serialisation — never after.

---

18. Event / Webhook Contract Specification

Every event on the bus shares one envelope:

```
{
  "eventId": "evt_8f21...",
  "eventType": "TrainingCompleted",
  "eventVersion": "1.0",
  "occurredAt": "2026-09-12T08:41:00Z",
  "recordedAt": "2026-09-12T08:41:00Z",
  "sourceSystem": "NYA-YOP",
  "device": "field-android-0412",
  "programmeId": "PRG-014",
  "personRef": "P-00124",
  "actor": "user:k.mensah",
  "location": {"region": "Northern", "district": "Tamale Metro"},
  "evidenceLevel": "B",
  "consentBasis": "programme_participation",
  "idempotencyKey": "field-0412-14829201",
  "payload": { "...": "event-specific fields" },
  "audit": {"receivedAt": "2026-09-12T10:02:11Z", "correlationId": "corr_5521"}
}
```

Two timestamps are deliberate: `occurredAt` is when the officer recorded it offline; `recordedAt` is when it reached the server. Consumers must be able to safely receive the same event twice — `idempotencyKey` is the deduplication contract.

---

19. Consolidated Event Catalog

Event	Producer	Primary consumers	Topic
PersonRegistered	YouthXplore / NYA-YOP	Youth Tracker	youth.events
VerificationTierChanged	NYA-YOP (field / NIA result)	Disbursement service, Youth Tracker	youth.events
ApplicationSubmitted	YouthXplore / NYA-YOP	NYA-YOP	application.events
ApplicationVerified · YouthSelected	NYA-YOP	Youth Tracker	application.events
ProgrammeStarted	NYA-YOP	Youth Tracker	programme.events
TrainingAttended / TrainingCompleted	NYA-YOP field, OMCP, NAP	Disbursement service, Youth Tracker	training.events
AssessmentCompleted · CredentialRecorded	CTVET, OMCP, centres	NYA-YOP, Youth Tracker	training.events
MentorshipSessionLogged	NYA-YOP	Youth Tracker	programme.events
EligibilityGateRun · PaymentInstructed · PaymentReconciled · PaymentReturned	NYA-YOP disbursement service	Payment channel, GIFMIS reconciliation, audit	money.events
PlacementMatched · PlacementStarted · EmploymentConfirmed	NYA-YOP, employer portal	Youth Tracker, GLMIS (confirmation back)	placement.events
BusinessCreated · FundingApproved · FundingDisbursed	NYA-YOP, NEIP	Youth Tracker	business.events

VolunteerHoursCompleted	NYA-YOP, NSA	Youth Tracker	programme.events
GrievanceOpened · GrievanceResolved	NYA-YOP	Audit, M&E	case.events
FollowUpCompleted · OutcomeRecorded · OutcomeVerified	NYA-YOP	Youth Tracker, MYDE reporting	outcome.events
SyncConflictRaised · SyncConflictResolved	NYA-YOP field	Data quality	integration.events
IntegrationSyncFailed	Integration layer	NYA-YOP ops, on-call	integration.events

Safeguarding events never leave the restricted tier and are not on the bus.

---

20. Partner Connector Specifications

Each connector follows the template from Part III §32 (owner, purpose, data exchanged, auth, frequency, events, error handling, retention, legal basis, data steward). In dependency order — NIA first, because it gates everything else:

20.1 NIA — Identity Verification Service Platform

- **Direction:** request/response only, never batch export.
- **Data:** verification RESULT (pass/fail + minimal reference), never a copy of the Ghana Card, never biometrics.
- **Auth:** highest-tier mTLS, dedicated approval, DPC-reviewed.
- **Commercials:** per-verification fees plus configuration and licence fees per NIA's published schedule — obtained in writing before costing.
- **Fallback:** the V0–V2 ladder means the platform degrades rather than stops if the service is unavailable.

20.2 YouthXplore

- **Direction:** bidirectional. Application handoff in; journey status out (Screens 51–53).
- **Auth:** OAuth 2.0 client credentials, scoped to `application:write`, `journey:read-summary`.
- **Frequency:** real-time via events; nightly reconciliation batch.

20.3 Youth Tracker

- **Direction:** outbound only from NYA-YOP.
- **Data:** programme-verified events and outcome summaries with their evidence levels — never case, grievance, safeguarding or payment data.
- **Frequency:** event-driven with a nightly reconciliation feed. The actual data-sharing arrangement, owner and API are not public and must be agreed with MYDE in writing during discovery.

20.4 Payment channel (mobile money / bank / GhIPSS)

- **Direction:** outbound instruction file; inbound per-beneficiary results (paid / failed / returned).
- **Data:** beneficiary reference, amount, period, channel reference — no programme or case data.
- **Auth:** per the channel's institutional standard; file signing and a per-run hash.
- **Reconciliation:** every instruction matched back; returns open recovery cases automatically.

20.5 GIFMIS

- **Direction:** outbound reconciliation.
- **Data:** disbursement totals per programme, period and cost centre — no beneficiary data.
- **Purpose:** every cost-per-outcome figure reconciles to GIFMIS, not to a parallel finance module (MYDE MTDP commitment).

20.6 GLMIS

- **Direction:** bidirectional. Vacancies and employer records in; placement and retention confirmations out.
- **Data:** vacancy reference, role, location, employer registration; confirmed placements and retention checks back.
- **Legal basis:** data-sharing agreement with the Labour Department — a Phase 0 deliverable; manual fallback (vacancy reference entered by hand) until signed.

20.7 OMCP

- **Direction:** inbound (learning events) with light outbound (pathway availability).
- **Data:** enrolment, completion, assessment, credential references.
- **Auth:** signed webhooks; mTLS at scale.

20.8 NAP registration system (nap.nya.gov.gh)

- **Direction:** inbound then superseded. NYA's own existing NAP registration is either extended or migrated — a discovery question, not an assumption.

20.9 CTVET / TVETMIS

- **Direction:** inbound authoritative. Qualification, assessment and certification references only — never the certificate itself. Not on the critical path; manual reference entry until TVETMIS exposes an interface.

20.10 NSA — National Service Authority

- **Direction:** bidirectional, Phase 3 under the MYDE harmonisation agenda.
- **Data:** service placements, completion and post-service pathway — a placement pipeline, and one of the four MYDE agencies feeding the Youth Tracker.

20.11 NEIP / Adwumawura

- **Direction:** bidirectional. Entrepreneurship programme and funding milestones in; business survival follow-up out.
- **Data:** training, mentorship, funding tranches, business registration reference.

---

21. Canonical Data Contracts (Illustrative)

```
// Person (minimum viable, purpose-limited)
{
  "personId": "P-00124",
  "yrn": "YRN-2026-000124",
  "verification": {"tier": "V3", "method": "NIA_IVSP", "reference": "nia-verif-ref-88213",
"verifiedAt": "2026-01-20"},
  "ageBand": "18-24",
  "sex": "F",
  "location": {"region": "Northern", "district": "Tamale Metro"},
  "contact": {"channel": "phone", "value": "hashed-or-tokenised"},
  "consent": [{"purpose": "programme_participation", "basis": "consent+statutory",
"noticeVersion": "3.1", "capturedBy": "in_person", "recordedAt": "2026-01-10"}]
}
```

```
// PaymentInstruction
{
  "instructionId": "PI-2026-08-001142",
  "runId": "RUN-NAP-2026-08",
  "personId": "P-00455",
  "period": "2026-08",
  "grossAmount": 400.00,
  "currency": "GHS",
  "gateResult": "PASS",
  "verificationTier": "V3",
  "maker": "user:a.nyarko",
  "checker": "user:i.sulemana",
  "approver": "user:dir.programmes",
  "channelReference": "MM-88213-0442",
  "reconciliationStatus": "PAID",
  "exceptionFlag": null
}
```

```
// Outcome
{
  "outcomeId": "OUT-88213",
  "personId": "P-00124",
  "programmeId": "PRG-014",
  "outcomeType": "EMPLOYMENT",
  "measurementDate": "2026-07-01",
  "evidenceLevel": "C",
  "verificationMethod": "employer_confirmation",
  "sourceSystem": "NYA-YOP"
}
```

Sensitive fields (contact details, disability/accessibility attributes, financial data, location traces, photographs, voice) are tokenised or field-level encrypted at rest and excluded from any default API response — they require an explicit elevated scope. Under the Data Protection Bill 2025 all of these are personal data; the design assumes so today.

---

22. Identifier & Matching Strategy

NYA-YOP does **not** mint a new national identifier. It issues an internal **Youth Reference Number (YRN)** — non-public, non-authoritative, never printed on a card, conferring no status — and resolves identity through the

ladder:

```
1. NIA verification reference (V3) — deterministic match, highest confidence
2. Ghana Card number, format-checked (V2)
3. Officer attestation with recorded evidence (V1)
4. Probabilistic match (name, DOB, phone, district, guardian name) — candidate only, always
human-adjudicated
5. Manual merge — always audited and reversible within a defined window; auto-merge is
prohibited
```

Duplicate candidates surface in the Data Quality workbench (Screen 39). The no-card path is a first-class route: "assisted Ghana Card acquisition" is a standard case category.

---

23. Error Handling Standard

```
{
  "error": {
    "code": "TIER_BELOW_PAYMENT_THRESHOLD",
    "message": "Cash-equivalent payments require verification tier V3; this person is at V2.",
    "httpStatus": 422,
    "traceId": "trace_9f221a",
    "documentationUrl": "https://developer.nya-yop.gov.gh/errors/TIER_BELOW_PAYMENT_THRESHOLD"
  }
}
```

Code range	Meaning
400x	validation / malformed request
401x	authentication failure
403x	authorisation / scope failure — including segregation-of-duties violations
404x	resource not found
409x	state conflict (duplicate, workflow order violation, attendance already gated)
422x	business rule violation (tier threshold, gate rule, reviewer independence)
429x	rate limited
5xx	platform fault — always retried by well-behaved clients

---

24. Rate Limiting & Throttling

```
Default partner tier:      120 requests/minute, burst 20
High-volume tier (OMCP):   600 requests/minute, burst 100
Field sync tier:           per-device budget sized for end-of-day bursts
Human-user session tier:   60 requests/minute per session
```

Limits are enforced at the gateway; breaching partners receive `429` with a `Retry-After` header rather than a silent drop.

---

25. Idempotency, Retry & Offline Semantics

- every `POST` that creates or changes state requires an `Idempotency-Key` header; field devices derive theirs from device id + local sequence, so a replayed sync never duplicates a record
- the platform stores keys for 24 hours minimum and returns the original response on replay
- consumers retry `5xx` and network failures with exponential backoff (base 1s, max 60s, jitter), stop after a bounded number of attempts, and route to a dead-letter queue for manual reconciliation
- a sync conflict (two contradictory records for the same person and period) is never resolved automatically: it is surfaced to the officer (Screen 70), both records are kept, and the decision is audited

---

26. Sandbox & Partner Onboarding

```
1. Institution signs data-sharing agreement + defines legal basis
2. Technical team issues sandbox credentials + synthetic test dataset
3. Partner implements against the OpenAPI spec in sandbox
4. Joint integration test (Part III §35 test categories)
5. Security review of partner's client (secrets handling, TLS config, CSA licence where a
service provider is involved)
6. Time-boxed production pilot with monitoring
7. Full production cutover + SLA activation
```

No partner reaches production without steps 1–6 completed and signed off by the steering committee.

---

27. API Governance & Change Control

The steering committee owns:

- the shared OpenAPI contract repository
- a published deprecation policy (minimum notice period before removing a field or endpoint)
- a change-request process: proposal → impact assessment across connected partners → approval → staged rollout
- a single source of truth for field definitions — a shared data dictionary aligned to Ghana Statistical Service labour-force definitions, so NYA's numbers reconcile with the national ones rather than competing with them

---

28. Consent & Data-Subject Rights API

```
POST   /api/v1/persons/{personId}/consent           # record / withdraw consent per purpose,
with notice version and capture method
GET    /api/v1/persons/{personId}/consent           # the consent & legal-basis register for
one person
GET    /api/v1/persons/{personId}/data-export        # subject access request
POST   /api/v1/persons/{personId}/correction-request
POST   /api/v1/persons/{personId}/deletion-request   # subject to statutory retention for
funded-programme records
GET    /api/v1/persons/{personId}/access-log         # who accessed this record, when, why
```

These endpoints operationalise the data-subject participation principle of the Data Protection Act 2012 (Act 843) — and are designed to the Data Protection Bill 2025 — rather than leaving rights as a policy statement with no system support. Privacy notices exist in English plus at least two widely spoken Ghanaian languages, with a read-aloud script for low-literacy enrolment; the notice version is stored with every consent record.

29. Security Architecture — Threat Model

```
T1  Credential compromise (officer or partner)              → MFA, PAM, short-lived tokens
T2  Programme leakage / eligibility fraud                    → verification ladder, duplicate
detection, disbursement gate, maker-checker
T3  Ghost beneficiaries and collusive attendance             → single-officer clustering
detection, random independent re-verification
T4  Unauthorised bulk export of youth data                   → export controls, DLP, per-
export approval + audit
T5  Partner integration compromise                           → mTLS, scoped credentials,
sandbox isolation
T6  Insider misuse of sensitive case / safeguarding data     → restricted tier, field-level
access control, immutable audit, alerting
T7  Data loss / unavailability                               → backup + tested DR, multi-AZ
where feasible
T8  Tampering with outcome records to inflate statistics     → evidence levels, immutable
audit, maker-checker on Level D claims
T9  Field device loss or misuse                              → MDM, remote wipe, encrypted
local store, device policy, insurance
T10 Regulatory change mid-build                              → design to the Bill; budgeted
compliance re-baseline at enactment
```

30. Compliance Stack

Instrument	Obligation	Control in the platform
Data Protection Act 2012 (Act 843)	Register as a data controller; eight principles; data-subject rights	Registration before pilot go-live; §28 endpoints; records of processing
Data Protection Bill 2025 (pending)	Personal data expanded to biometrics, location, voice, online identifiers, pseudonymised data; Commission becomes an Authority	Designed to the Bill from day one; compliance re-baseline budgeted at enactment
Cybersecurity Act 2020 (Act 1038) and the CII Directive	CII owners meet baseline requirements; cybersecurity services need a CSA licence	Early CSA determination on CII status; every security vendor evidences a current licence — enforcement is active
NITA e-Government Interoperability Framework and Government Enterprise Architecture	Interoperability standards for government applications	API and hosting design conform; hosting agreed with NITA before the architecture is fixed
Public Procurement Act 663 as amended by Act 914	Competitive tendering; GHANEPS mandatory	Part IV §50

National AI Strategy 2025–2035	Human-centred, responsible AI	No fully automated adverse decision; every AI answer carries sources, date range and limitations

31. Security Controls Matrix

Layer	Control
Identity	OIDC/OAuth 2.0, MFA for privileged roles and everyone in the money chain
Application	input validation, output encoding, dependency scanning, segregation of duties enforced server-side
API	gateway auth, scope enforcement, rate limiting, WAF
Data	encryption at rest (AES-256) and in transit (TLS 1.2+); field-level encryption for sensitive attributes; encrypted local store on field devices
Infrastructure	network segmentation, least-privilege IAM, secrets in Vault/KMS, in-country or NITA-approved hosting
Operations	SIEM/monitoring, vulnerability scanning, penetration testing by a CSA-licensed provider
Governance	DPIA before new data collection, access reviews, incident response plan, CSA and DPC liaison

32. Encryption Standards

```
In transit:   TLS 1.2+ everywhere, mTLS for system-to-system partner traffic
At rest:      AES-256 for database and object storage; encrypted SQLite on field devices
Field-level:  additional encryption/tokenisation for contact details, disability attributes,
              financial data, case notes, location traces, photographs, voice notes
Key mgmt:     centralised KMS/Vault; no application ever holds a raw key;
              scheduled key rotation; access to key material is itself audited
```

33. RBAC/ABAC Policy Model

```
permission = f(role, region, district, programme, data_sensitivity, purpose, sod_class)
```

Example policy (illustrative pseudocode):

```
ALLOW sign(disbursement_run, role = "checker")
  IF user.sod_class == "checker"
  AND run.maker != user
  AND run.checker IS NULL
  AND run.programme IN user.programmes

DENY read(safeguarding_record)
  UNLESS user.scopes CONTAINS "safeguarding:restricted"
```

The Field Officer permission set (Screen 47) is enforced at the API layer, not only hidden in the UI — a denied field never leaves the service. Portal roles (employer, partner) are organisation-scoped: an employer sees only

completers shortlisted against its own GLMIS vacancies and its own placements; a partner sees aggregates for the cohorts it funds, with small cells suppressed.

---

34. Privileged Access Management

- break-glass access for emergencies is logged, time-boxed and reviewed within 24 hours
- administrator actions (role changes, data merges, bulk exports, bulk corrections) require a second approver (maker-checker)
- privileged sessions are recorded at the metadata level (who, what, when) and reviewed on a schedule

---

35. Audit & Immutable Logging

Every audit record captures:

```
actor
action
resource
before / after state (for changes)
timestamp (occurred and recorded, where different)
justification / purpose
source IP / device (where applicable)
```

Audit logs are append-only, replicated independently of the operational database, and retained per the published retention schedule. Deletion of an audit record is not a supported operation. Every signature in a disbursement run, every merge, every tier change and every safeguarding escalation is an audit record in its own right.

---

36. Vulnerability Management & Penetration Testing

```
Continuous:      dependency + container scanning in CI/CD
Quarterly:       internal vulnerability assessment
Annual:          independent penetration test by a CSA-licensed provider
Before each
major release:   security review + SAST/DAST gate
```

Findings are tracked to closure with severity-based SLAs (critical: days, high: weeks, medium/low: scheduled).

---

37. Incident Response Plan

```
Detect  →  Triage  →  Contain  →  Eradicate  →  Recover  →  Post-incident review
```

- a defined severity scale (SEV1–SEV4) with matching response times
- a designated incident commander role and communication tree
- breach-notification procedure aligned with the Data Protection Act and, on enactment, the Bill; CSA notification where the platform is designated CII

- every incident produces a post-incident report with corrective actions tracked to completion

38. SLA Framework

Integration tier	Availability target	Sync latency	Support response
Tier 1 (YouthXplore, Youth Tracker, GLMIS, OMCP)	99.5%	near real-time (event)	1 business day
Tier 2 (payment channel, GIFMIS, CTVET, NEIP, NSA)	99%	< 24h batch acceptable	2 business days
Tier 3 (additional MDAs)	best-effort	< 48h batch	3 business days
NIA IVSP	per NIA's published SLA	request/response	per NIA agreement

39. Interoperability Standards Alignment

- **OpenAPI 3.x** for every REST contract, published in the developer portal
- **NITA e-GIF** for government interoperability; **ISO 8601** for dates/times; **ISO 3166 / GhanaPostGPS or approved geocoding** for location
- **Ghana Statistical Service** labour-force definitions for every outcome measure
- prefer existing government-approved identity (NIA), payment (GhIPSS, mobile money) and notification gateways over building new ones

40. API Documentation & Developer Portal

The Integration Centre (Screens 43–45, 69) is the operational view; a separate **developer portal** provides the OpenAPI reference, sandbox credentials, changelog, the shared data dictionary, example payloads for every event in the catalog, and a status page for each partner connector's health.

41. Testing & Certification Requirements for Partners

Before production cutover a partner must demonstrate:

- correct handling of duplicate events (idempotency)
- correct retry/backoff behaviour
- token refresh handled without data loss
- no sensitive field logged in cleartext on their side
- a passed joint UAT script covering their slice of the critical journey (Part III §35)
- for the payment channel: a full cycle in sandbox — instruction, partial return, reconciliation, recovery case

42. Part VII Summary Checklist

☐ OpenAPI contracts ratified per domain, including the disbursement and verification-ladder surfaces
☐ Event envelope + catalog agreed with MYDE (Youth Tracker), the Labour Department (GLMIS) and the payment channel
☐ Auth model implemented: OIDC for humans, OAuth2 client credentials/mTLS for systems, segregation-of-duties class in every token
☐ RBAC/ABAC and the safeguarding restricted scope enforced at the API layer, not just the UI
☐ Consent register and data-subject rights endpoints live before first production data
☐ Encryption at rest/in transit + field-level encryption for sensitive attributes, including field-device stores
☐ Immutable audit logging on every read/write of personal data and every signature in the money chain
☐ NIA IVSP terms in writing; CSA determination requested; DPC registration complete; NITA hosting agreed
☐ Incident response plan tested at least once before the second region
☐ Sandbox + certification process required before any partner reaches production

PART VIII — CONSOLIDATED DELIVERY PRINCIPLE

Status: Closing synthesis — the pages a board can decide on **Working name:** NYA Youth Operations Platform (NYA-YOP)

---

1. Purpose of This Part

Parts I–VII are deliberately exhaustive so that strategy, product, data, technology, compliance, screens and APIs can each be reviewed by the right specialists. Part VIII pulls them back into **one decision-ready package** for the people who will not read all of it — the NYA CEO and Board, MYDE leadership, and the steering committee.

---

2. How the Parts Fit Together

```
Part I     WHY / WHAT              Strategy — what NYA-YOP is, and is not
Part II    WHAT IT DOES            Product — modules, lifecycle, verification ladder,
disbursement control
Part III   HOW IT HOLDS TOGETHER   Data, technology and compliance
Part IV    HOW IT GETS BUILT       Delivery — 90-day proof, roadmap, pilot, operating model,
costs, procurement
Part V     WHY IT IS WORTH IT      The case — positioning, pitch, decision request
Part VI    WHAT PEOPLE SEE         Screen-by-screen specification, all 70 screens
Part VII   HOW IT IS TRUSTED       API, security and interoperability specification
Part VIII  WHAT TO DECIDE NOW      This summary
```

---

3. The Rules That Govern Every Decision

> ***Run NYA's own programmes end to end, and make the Youth Tracker true.*** *Do not rebuild what already exists — YouthXplore discovers, GLMIS matches, NIA identifies, CTVET certifies, GIFMIS accounts, the Tracker reports. NYA-YOP is where the Tracker's data comes from.*

> ***No number without its evidence level.*** *Headline outcomes count third-party or system-linked confirmation only. Self-reported outcomes are recorded and shown separately — never in the headline.*

> ***No payment without a verified person and a verified condition.*** *Verification tier gates eligibility; attendance gates the allowance; three different people sign; everything reconciles to GIFMIS.*

Where a future decision is unclear, these three tests settle it.

---

4. Consolidated Master Timeline

```
Weeks 0–10      Phase 0  — Youth Delivery Discovery (the only thing being approved now)
Days 0–90       Phase 1  — Single-programme proof: NAP, one region, ten districts
                           register + verification ladder, offline attendance, eligibility
gate,
                           maker-checker, one real payment cycle, district dashboard — and a
gate that can fail
Months 5–8      Phase 2  — Field operations proper: cases, referrals, grievances, safeguarding
tier,
                           inspections, sync conflicts; second region with a different
connectivity profile
Months 7–10     Phase 3  — Outcomes: placements, employer and master-craftsperson
confirmation,
                           evidence levels C/D, 3- and 6-month follow-up, first verified
conversion measurement
Months 8–11     Phase 4  — Integrations in strict dependency order: NIA IVSP → YouthXplore →
Youth Tracker → GLMIS;
                           OMCP and CTVET only when they are ready — nobody else's readiness
on the critical path
Months 10–12    Phase 5  — Independent evaluation, security and data-quality audit, recurrent-
budget decision,
                           national rollout business case
Year 2          National NYA programme coverage
Year 3          Cross-MDA extension, when MYDE decides — the pattern already proven, the
integration cost near zero
Years 4–5       Advanced outcome intelligence; a mature national youth-development data
ecosystem
```

5. Consolidated Governance Structure

```
Senior Responsible Owner (NYA Deputy CEO / Director) — accountable for benefits, not just
delivery
        │
Steering Committee (NYA, MYDE, YEA, NEIP, NSA, MoCDTI/OMCP, CTVET, NIA, DPC, Labour
Department, delivery team, employer representation)
        │
        ├── Data & API Governance Working Group     (Part VII §27)
        ├── Privacy, Security & Compliance Group      (Part III §37–38, Part VII §29–37)
        ├── Programme Definitions Working Group       (Part II §8–9)
        └── Pilot Delivery Team + Product Owner       (Part IV §43–47) — a full-time,
permanent NYA product owner is non-negotiable
```

The steering committee is the single body with authority to approve new integrations, change core data contracts, or expand scope beyond the agreed proof and pilot. Written scope agreements with MYDE (Youth Tracker boundary) and the Labour Department (GLMIS boundary) are Phase 0 deliverables, not assumptions.

6. Consolidated Risk Register

#	Risk	Mitigation	Owner
1	Mandate collision with MYDE's Youth Tracker	Option 2 positioning; written scope agreement before Phase 2	SRO / Steering Committee

2	Duplication of GLMIS	Employer surface is GLMIS-fed; data-sharing agreement with the Labour Department early	Steering Committee
3	Poor data quality	Data-quality scoring, stewardship, timeliness as a centre scorecard item	Data Governance Group
4	Connectivity gaps	Offline-first field architecture; a rural, low-connectivity pilot region	Delivery Team
5	Regulatory change mid-build (Data Protection Bill 2025)	Design to the Bill; budgeted compliance re-baseline	Compliance Group
6	CII designation obligations discovered late	CSA determination in Phase 0	Compliance Group
7	Recurrent funding not secured	Year-2 recurrent budget line as a written gate condition for Phase 2	SRO
8	NIA verification cost or availability	Written rates and SLA in Phase 0; the V0–V2 ladder degrades rather than stops	Delivery Team
9	Ghost beneficiaries and collusive attendance	Disbursement controls; independent random re-verification; officer-outlier sampling	Programme Directorate
10	Officer overload / non-adoption	Time-and-motion in discovery; officer workload and time screen; value visible to officers within 90 days	Delivery Team
11	Field device loss and misuse	MDM, remote wipe, encrypted local store, device policy, insurance line	ICT
12	Vendor lock-in	Government ownership of data and configuration, source escrow, documented exports, no per-beneficiary licensing	Procurement
13	AI overreach	Human oversight; no automated adverse decision; every answer carries sources and limitations	Steering Committee
14	Outcome-statistic inflation	Evidence levels; C/D-only headline; maker-checker on Level D claims	Data Governance Group
15	Political cycle	Build value officers see within 90 days — an adopted system survives a change of government; a dashboard does not	SRO

7. Consolidated Success Framework

```
North star:   Verified Conversion Rate (VCR) — the percentage of youth who started an NYA
programme
              and, 12 months after completion, hold a verified sustained outcome (Part IV
§55).
              Reported at evidence level C or D only.

Integrity:    Outcome Verification Rate — the share of recorded outcomes at C or D.
              A rising VCR with a falling verification rate is a warning, not a success.

Supporting:   cost per verified conversion (reconciled to GIFMIS) · time from completion to
outcome ·
              conversion by region, sex, disability and urban/rural · attendance data
completeness ·
              application-to-selection turnaround · payment exception rate · officer time per
verification

Baselines:    published where they exist (Part IV §54); the three NYA must supply — current
outcome
              verification rate, application turnaround, attendance completeness — are the
business case.
```

8. Definition of Done — the 90-Day Proof and the Pilot

```
90-day proof (Phase 1) is complete only when:
☐ One programme (NAP), one region, ten districts live on the platform
☐ Participant register with the V0–V3 ladder in use by real district officers
☐ Attendance captured offline in real conditions and synced, conflicts resolved on screen
☐ The eligibility gate has run on a real period and a maker-checker-approver chain has
released one real payment cycle
☐ Attendance data quality and payment exception rates measured against the paper baseline
☐ The gate has been answered honestly: improved measurably, or stop

Pilot (Phases 2–5) is complete only when:
☐ Three regions live — urban high-unemployment, secondary-city, rural low-connectivity — with
a staggered comparison group
☐ NIA IVSP, YouthXplore, Youth Tracker and GLMIS integrations live and reconciling
☐ At least one cohort has moved end to end: application → verification → training → placement
→ verified outcome
☐ First verified conversion measurement published against the pre-registered analysis
☐ Security audit by a CSA-licensed provider and DPIA complete with no unresolved critical
findings
☐ Year-2 recurrent budget line agreed in writing
```

Anything short of this is not a basis for a national scale decision.

9. The Prototype

A clickable prototype accompanies this proposal and covers every screen in Part VI across five personas — NYA staff, a training centre, an employer (GLMIS-fed), a funding partner, and a young person seeing their journey through YouthXplore. It is built in the Youth Employment Agency's colours, runs in any browser from a single file, and carries an "Illustrative data" label on every screen: every name, figure and record in it is invented.

Suggested demo path (the prototype's own guided route):

1. Executive overview — drill from a regional KPI to one person and one open case
2. Ask NYA-YOP — an answer with its sources, date range and limitations
3. Programme workspace and youth journey — evidence level on every event
4. New programme wizard — templates, common lifecycle, outcome framework, approval before publish
5. Verification workbench and selection board — tiers, conflict-of-interest declaration
6. Disbursement run — the gate, the exception queue, maker → checker → approver, payment file, GIFMIS
7. Cases, grievances and the restricted safeguarding tier — the consent gate on referrals
8. Mentorship, volunteering, entrepreneurship — hours, sessions and business survival that land on the journey
9. Monitoring & evaluation — the Verified Conversion Rate, cohort drop-off, bottlenecks, an owned intervention
10. Equity & inclusion — who is missing, and where
11. Data quality — a duplicate resolved by a second approver, a conflict raised from the field
12. Integrations and administration — nine systems, the event stream, roles, audit, data-subject rights
13. Field app — verify through NIA on a phone, work offline, sync, resolve the conflict
14. Training centre — cohort register, assessment evidence to CTVET, workplaces and master craftspersons
15. Employer — shortlist completers against a GLMIS vacancy, confirm retention (Level C)
16. Partner — a milestone that pays only against verified outcomes, small cells suppressed
17. Youth — the journey as the young person sees it; a support request that becomes a case

Photography in the prototype is AI-generated placeholder imagery and must be replaced with real NYA photographs before any external use.

---

10. Final Recommendation Summary

1. Do **not** approve a national software build today.
2. Approve a **10-week Youth Delivery Discovery**, followed by a **90-day single-programme proof** in one region, with an explicit stop/go gate before any platform investment (Part V §63). Indicative cost GHS 720,000 – 1,280,000 **[estimate]**.
3. Confirm NYA-YOP's role as **NYA's programme delivery system that feeds the Youth Tracker** — explicitly not the cross-agency layer, and not a replacement for YouthXplore, GLMIS or the Tracker.
4. Get the **Youth Tracker and GLMIS boundaries agreed in writing** with MYDE and the Labour Department before Phase 2.
5. Stand up the **steering committee and a full-time NYA product owner** before any code is written.
6. Build to the **90-day proof scope** — register, ladder, attendance, gate, maker-checker, one payment cycle, district dashboard — and nothing more, first.
7. Treat Part VII's security, privacy and interoperability specification as **non-negotiable minimums**: DPC registration, a CSA determination, NIA terms in writing and NITA-agreed hosting are Phase 0 deliverables.
8. Make the **year-2 recurrent budget** a written gate condition — the platform dies in year 3 without it, however well it is built.

---

11. One-Page Board Summary

PROBLEM	Ghana has never invested more in young people, and the Ministry's own plan says the sector has an "inadequate and unreliable database on youth programmes" and an "absence of real-time data on youth". Of 141,954 One Million Coders registrations, 5,812 completed a course — and nobody can say what happened next.
PROPOSAL	NYA Youth Operations Platform (NYA-YOP): the operational system that runs NYA's own programmes end to end — application, verification, training, field delivery, placement, verified outcome — and publishes trustworthy, real-time data into the National Youth Tracker.
WHAT IT IS	A verification ladder gating who can be paid. Offline field attendance that gates the allowance. Three signatures and a GIFMIS reconciliation before money moves. Employer and master-craftsperson confirmation of placements and retention. A Verified Conversion Rate that counts only what a third party or a system confirmed.
WHAT IT ISN'T	Another youth app. Another job board (GLMIS exists). Another identity system (NIA exists). Another certification authority (CTVET exists). Another dashboard (the Tracker exists). The cross-agency layer — that is MYDE's to extend, later.
ASK	Approve a 10-week discovery and a 90-day single-programme proof, not a national build. GHS 720,000 – 1,280,000 [estimate] — roughly one-tenth of one percent of the Ministry's annual budget — with a gate that can fail.
NORTH STAR	Verified Conversion Rate: the share of youth who started a programme and, a year after completion, are provably still working, trading, studying or serving.
RISK IF WE DO NOTHING	NYA keeps submitting paper totals weeks late; the Tracker keeps reporting what it is given; and the question the CEO will be asked next year — what percentage of them can we prove are still working — stays unanswerable.

---

12. Closing Principle

> ***It makes the Tracker true.***

That is the whole proposal in five words. Parts I–VII exist to make it buildable, fundable, lawful and trustworthy at national scale. Part VIII exists to make sure that, however this document is used — board pack, technical specification, pilot charter or procurement annex — it is never separated from that sentence.

End of NYA-YOP Master Proposal, version 3.