

Concept Note on Rationalization and Restructuring of CTS Trades (For Inviting Public Comments)

1. Background

The Craftsmen Training Scheme (CTS) has been the flagship vocational training programme of DGT. With technological advancements and overlap among existing trades, DGT proposes to rationalize and restructure CTS trades to improve relevance, reduce duplication, optimize infrastructure, and align training with industry requirements.

2. Need for Rationalization

- Duplication of curriculum and competencies.
- Fragmentation of similar occupations.
- Low enrolment in several trades.
- Need to integrate AI, Industry 4.0 and Green Skills.
- Better alignment with Recruitment Rules (RRs).
- Standardization of entry qualifications and duration.

3. Objectives

- Improve employability.
- Reduce duplication.
- Optimize resources.
- Preserve specialised competencies.
- Align CTS with industry demand.

4. Rationale

The following parameters are considered:

1. Identification of Mother CTS Trade and Sister Trades.
2. Content-wise percentage matching.
3. Competency-wise percentage matching.
4. Identification of unique competencies.
5. Last five years enrolment.
6. Mapping with Government/PSU Recruitment Rules.

5. Methodology

- Trades with $\geq 70\%$ content/competency similarity may be merged.
- Unique competencies shall be developed as Short-Term Training (STT) modules/Bridge modules.
- Trades having enrolment below 10% of sanctioned seating capacity during the last five years may be discontinued, provided they are not reflected in notified Recruitment Rules.
- Entry qualification shall generally be standardized to 10th Pass, while technically demanding trades may continue with 12th Pass.
- Six-month CTS courses may be merged into one-year courses or core trades.

6. Proposed Outcomes

- Rationalized CTS framework comprising 98 trades.
- Merger of 45 trades requiring new STT modules.
- Merger of 26 trades without separate STT modules.
- One trade proposed for Flexi-MoU.
- Revision of identified trades and corresponding restructuring of CITS trades.

7. Invitation for Public Comments

Comments are invited from State Governments, Industry, PSUs, Sector Skill Councils, ITIs, NSTIs, experts and other stakeholders on the proposed framework, methodology and implementation approach. Feedback received shall be considered before finalization.

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RATIONALISATION OF CTS TRADES

A Comprehensive, Evidence-Based Report on the Consolidation of Craftsmen Training Scheme (CTS) Trades and the Corresponding Restructuring of CITS (Craft Instructor Training Scheme) Trades

Coverage: 170 CTS-related trades assessed · 98 CTS trades retained · 71 trades consolidated · 1 trade moved to Flexi-MoU · 48 CITS specialisation areas

Prepared from CSTARI, DGT Rationalisation Working Sheets, Enrolment & Overlap Mapping Data, and the Concept Notes on CTS Rationalisation

July 2026 · Draft for Public Consultation

This report consolidates quantitative overlap and enrolment evidence with the CSTARI colour-coded rationalisation framework into a single, justified restructuring roadmap for CTS and CITS trades.

Executive Summary

The Directorate General of Training (DGT) is undertaking a rationalisation of the Craftsmen Training Scheme (CTS) trade portfolio to reduce curriculum duplication, better align training with industry demand, and optimise infrastructure and trainer capacity. This report consolidates three working datasets — a colour-coded base-trade classification sheet, a 169-trade overlap-and-enrolment mapping, and a CITS restructuring map — together with two DGT concept notes, into a single evidence-based report.

Of 170 CTS-related trades assessed, 98 are recommended for retention as independent base (“mother”) CTS trades. The remaining 72 trades are either substantially overlapping sister trades recommended for merger — 45 requiring a new Short-Term Course (STC) to preserve their unique residual competencies, and 26 mergeable without any new STC — or, in one case (Vessel Navigator), recommended for conversion from a CTS trade to a Flexi-MoU course. Nine trades are recommended for entry-qualification enhancement from 8th to 10th pass, three specialised trades retain a 12th-pass entry requirement, and 15 trades are recommended for content revision. The corresponding Craft Instructor Training Scheme (CITS) portfolio would converge to 48 specialisation areas aligned to the retained base trades.

Every recommendation in this report is anchored to at least one of three evidence types: (i) a documented content/competency overlap percentage between the base trade and the related trade, (ii) 2025 enrolment figures showing sustained low demand for the trade proposed for merger, and (iii) the qualitative rationale recorded in DGT's own concept notes. Sections 4–6 present this evidence at the portfolio and sector level; Section 8 presents it for named illustrative trade clusters; and Annexes A and B present it for every one of the 98 base trades and 48 CITS areas.

The report closes with an impact and risk assessment covering entry-qualification changes, trade renaming, duration changes, Recruitment Rules, urban–rural access, and tooling/infrastructure, followed by a phased implementation roadmap and a public-consultation process, including a ready-to-use public comment form (Annex D).

1. Background and Context

The Craftsmen Training Scheme (CTS) is DGT's flagship vocational training programme, delivered through ITIs and NSTIs across the country. Over successive decades, new trades have been added in response to emerging technologies and sector demands, while several older trades have continued largely unchanged. The result is a portfolio in which many trades share the bulk of their curriculum and competency standards with a closely related “base” trade, while enrolment in the narrower, more specialised trade has often remained low.

DGT's own concept note frames the exercise around five principles: merging highly overlapping trades with low enrolment into their base trade; retaining emerging and high-enrolment trades; introducing Short-Term Courses (STCs) where overlap is only moderate and sector-specific skills must be preserved; aligning entry qualifications and duration with industry requirements and progression pathways; and optimising the use of infrastructure, tooling, trainers and financial resources.

1.1 Rationale (per Concept Note)

1. Identification of the Mother CTS Trade and its Sister Trades — the broadest-scope, highest-enrolment trade in a family becomes the retention anchor.
2. Content-wise percentage matching between the mother trade and each sister trade.
3. Competency-wise percentage matching, distinguishing shared skills from unique ones.
4. Identification of unique competencies that must be preserved through an add-on module or STC even after merger.
5. Review of the last five years' enrolment for every trade under consideration.
6. Mapping against Government/PSU Recruitment Rules, since several trades are named explicitly in existing service rules.

2. Need for Rationalisation — The Evidence

Two quantitative signals recur across the working data: (a) a large share of related-trade comparisons show 50% or higher content/competency overlap with an identified base trade, and (b) a meaningful number of the narrower trades attracted very low or zero enrolment in 2025. Together these support DGT's stated methodology that trades with $\geq 70\%$ similarity be merged outright, and that trades with moderate (40–69%) overlap be merged with a compensating STC for their unique content.

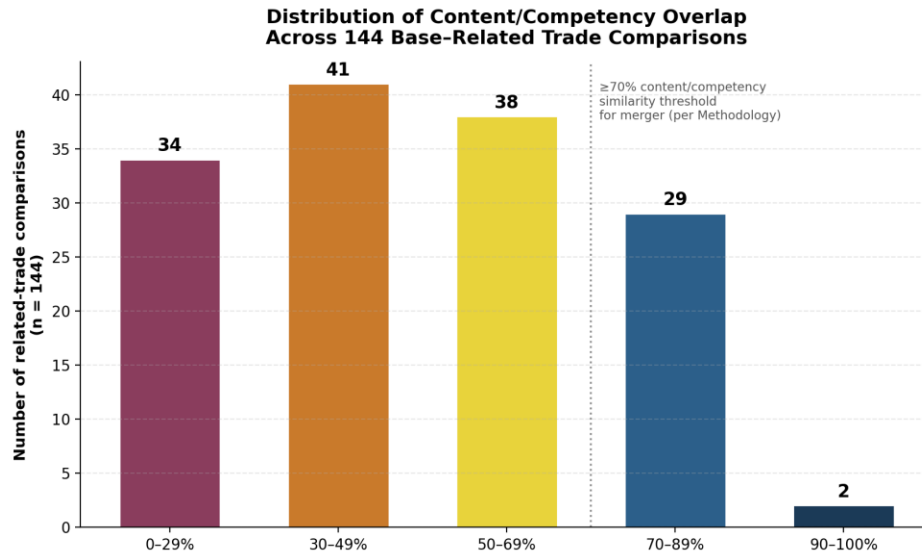


Figure 1: Distribution of content/competency overlap across 144 scored base-related trade comparisons. Two-thirds (69/144) score at or above 50% overlap.

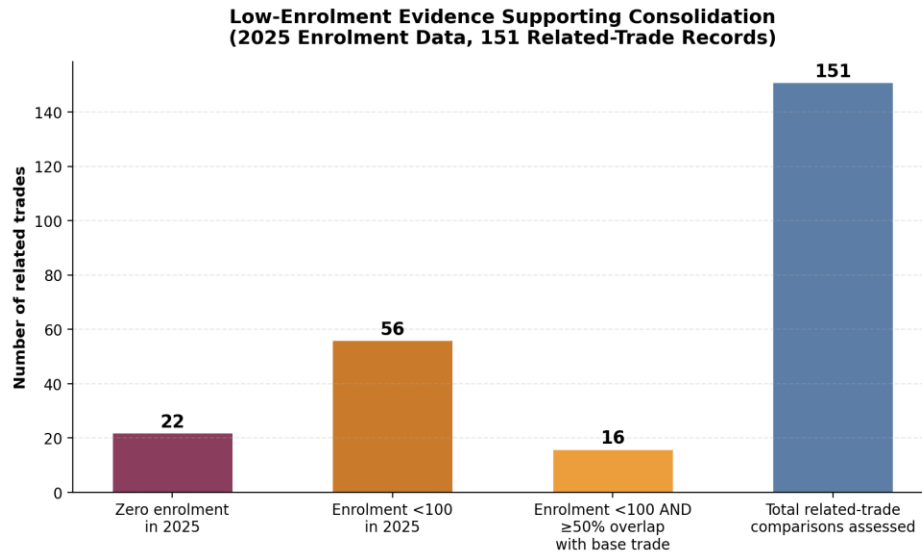


Figure 2: Enrolment evidence for consolidation — 22 related trades recorded zero enrolment in 2025, and 56 recorded fewer than 100 trainees nationally; 16 of these combine low enrolment with 50%+ overlap, the strongest evidence pattern for merger.

These two evidence streams are complementary rather than duplicative: a trade can show high overlap but still carry meaningful enrolment (indicating a genuine, if narrow, industry niche that should migrate to an STC rather than disappear), or low overlap but very low enrolment (a candidate for the discontinuation/Flexi-MoU route rather than a curriculum merger). The colour-coding described in Section 3 was applied trade-by-trade using this combined lens, not overlap percentage alone.

3. Methodology and the Colour-Coded Classification Framework

Each of the 170 CTS-related trades in the working sheet was assigned to one of four outcome categories using a colour code, cross-checked in this report against the quantitative overlap and enrolment evidence in Section 2. The legend (reproduced from the source working sheet, cells C135:F143) is as follows:

Colour Code	Count	Meaning
GREEN	98	Base trade — retained as an independent CTS trade after rationalisation.
ORANGE	45	Trade to be merged into its base trade; a new Short-Term Course (STC) is to be designed to preserve its unique residual competencies.
YELLOW	26	Trade to be merged into its base trade; no separate STC is required because its content is essentially subsumed by the base trade.
BLUE	1	Trade status to be changed from a CTS trade to a Flexi-MoU course (industry-run, MoU-based delivery).

Three further counts from the same working sheet refine this classification: 9 trades are recommended for entry-qualification enhancement (8th→10th pass); 3 specialised trades retain a 12th-pass entry requirement; and 15 trades are recommended for revision (curriculum or duration change) independent of a merger decision. Applying the four-way colour test and the Section 5 methodology together produces the decision framework in Figure 3.

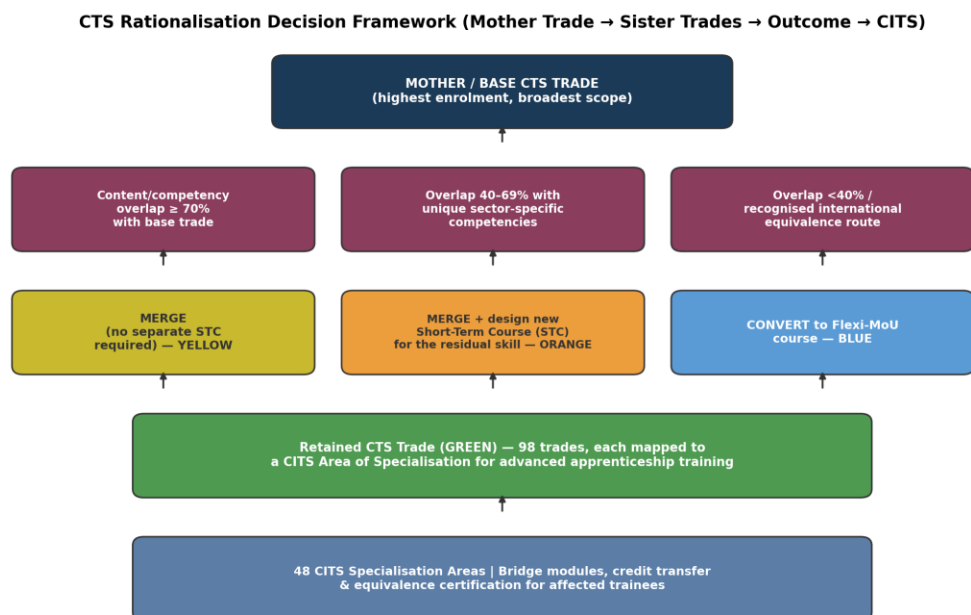


Figure 3: The rationalisation decision framework — from mother/base trade identification through to the merge/STC/Flexi-MoU decision and onward to the corresponding CITS specialisation area.

4. Overall Outcome of the Rationalisation Exercise

Applying the framework across all 170 assessed trades produces the distribution in Figure 4. Fifty-eight percent of trades (98 of 170) are retained outright as base CTS trades; a further 26% (45 trades) are recommended for merger with a compensating STC; 15% (26 trades) merge without needing an STC; and one trade converts to a Flexi-MoU course.

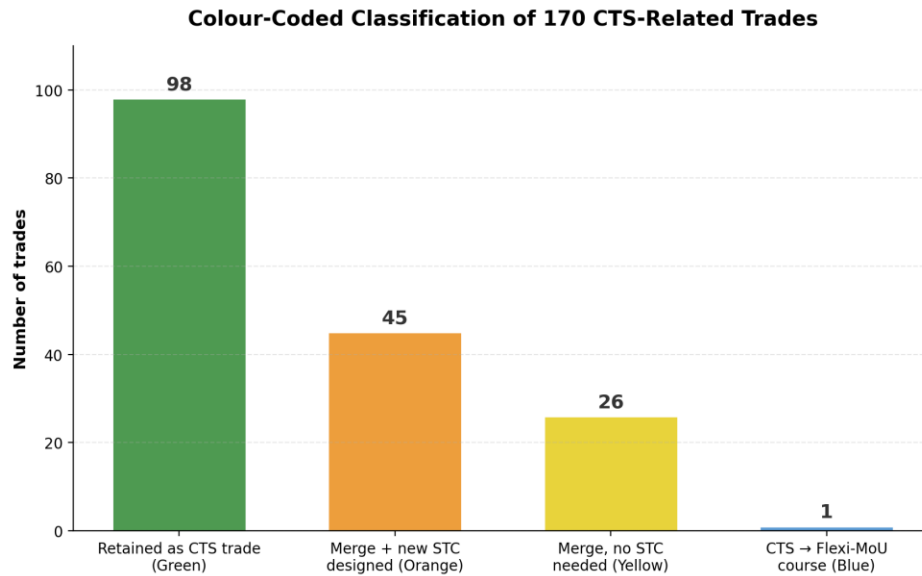


Figure 4: Colour-coded classification outcome across all 170 CTS-related trades assessed.

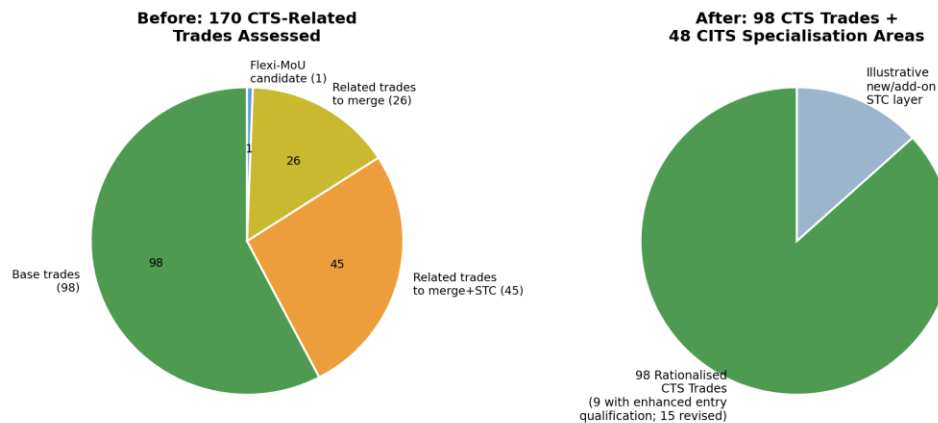


Figure 5: Portfolio impact — 170 trades assessed today (left) collapse to 98 rationalised CTS trades feeding 48 CITS specialisation areas (right); 9 of the 98 carry an enhanced entry qualification and 15 are separately flagged for content revision.

5. Sector-wise Analysis

The 98 base trades span roughly 18 sectoral clusters. Engineering Design & Manufacturing (23 base trades) and Information Technology & ITes (15 base trades) together account for nearly 40% of the portfolio and also carry the largest absolute number of merge candidates — unsurprising, since these are the two clusters where DGT has added the most narrowly-scoped trades in response to specific employer or technology requests over the past decade. Electronics stands out with a high merge ratio (6 of 7 related trades flagged Orange) reflecting fast-moving, overlapping consumer/industrial-electronics specialisations that share a common core.

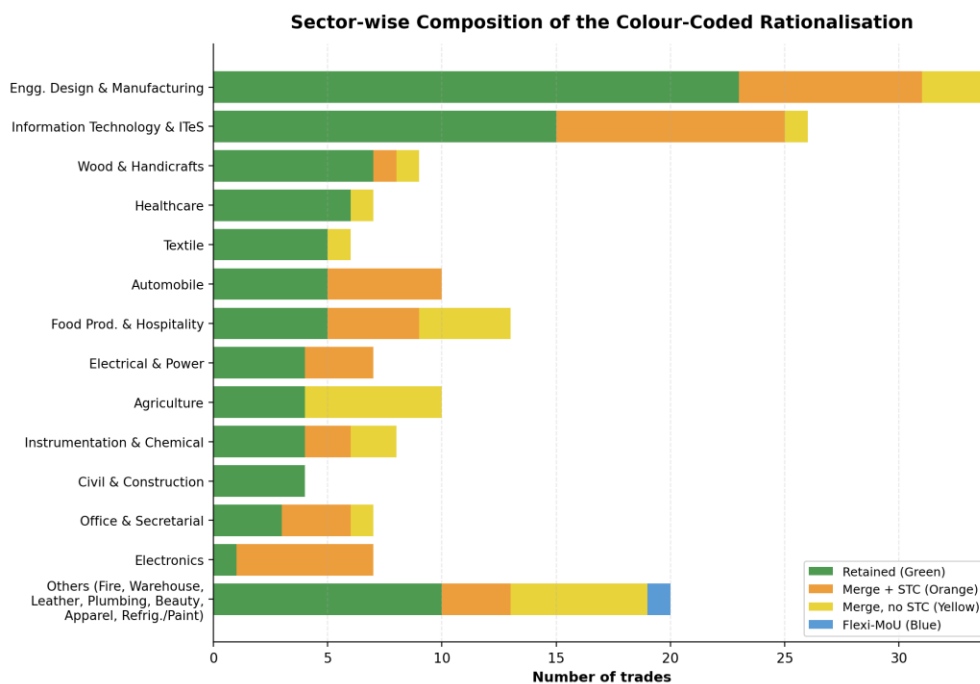


Figure 6: Sector-wise composition of the colour-coded classification, ordered by total trade count.

5.1 Sector Highlights

- Engineering Design & Manufacturing — the largest and most heterogeneous cluster (Fitter, Machinist, Turner, Welder, Tool & Die, Draughtsman, CNC and allied trades); 8 Orange and 3 Yellow merges are concentrated among Welder variants and Tool & Die variants (see Section 8.3).
- Information Technology & ITes — 10 Orange merges cluster around ICTSM and COPA, where Data Entry Operator, DTPO, Database System Assistant and Software Testing Assistant show 45–73% overlap with COPA/ICTSM (Section 8.1).
- Agriculture — the highest Yellow-to-Green ratio (6 Yellow against 4 Green), indicating this cluster's related trades are near-total subsets of their base trade with limited unique content.
- Civil & Construction — no merge candidates identified; each of the 4 base trades (Draughtsman Civil, Geo-Informatics Assistant, Mason, Surveyor, Architectural Draughtsman, Interior Design) serves a sufficiently distinct occupational role.
- Electronics — the highest merge intensity of any cluster: of 7 trades, only 1 (Electronics Mechanic) is retained as a standalone base trade, with 6 related specialisations (Power Electronics, Consumer Electronics, Smartphone Technician, IoT/Fiber variants) recommended for STC-based consolidation.

6. Corresponding Restructuring of CITS Trades

The Craft Instructor Training Scheme (CITS) trains instructors to teach CTS trades, so its trade/specialisation structure must track the rationalised CTS portfolio. The working data maps 48 CITS Areas of Specialisation onto the rationalised base-trade structure — for example, ICTSM, COPA, Data Entry Operator, DTPO, Software Testing Assistant and Database System Assistant collapse into a single ‘Computer Hardware & Information Technology’ / ‘Computer Software’ CITS pairing, rather than each trade requiring its own instructor-training track.

The source working sheet flags this CITS total explicitly as provisional (“Needs to be reworked”); it is reproduced here as the current best estimate and should be finalised alongside the CTS merger decisions, since a small number of CITS areas (e.g. Green Hydrogen, Drone Tech, 5G/Network Tech) anchor emerging trades whose enrolment and industry demand are still developing and may justify a separate review cycle rather than immediate finalisation.

CITS S. No.	Anchor CTS Base Trade	CITS Area of Specialisation
1	CHNM	Computer Hardware& Information Technology
2	COPA	Computer Software
3	STENOGRAPHER SECRETARIAL(ENGLISH) 10th 1 year	Office Management
4	Electrician	Power Tech
5	Spinning Technician	Textile machine Tech
6	Fire Technology & Industrial Safety Management	Fire Tech
7	Mechanic Motor Vehicle	Automobile Tech
8	Mechanic Diesel	Diesel Engines
9	Instrument Mechanic 10th (Sc. & Math) 2 year	Instrument Tech
10	Industrial Robotics and Digital Manufacturing Technician	Industrial Automation
11	Horticulture	Horticulture
12	WAREHOUSE TECHNICIAN	Warehouse
13	LEATHER GOODS MAKER	Leather Goods
14	FRONT OFFICE ASSISTANT	Service Tech
15	Draughtsman (Mechanical)	Engg Drawing & Design
16	Fitter 10th (Sc. & Math) 2 year	Fitting Tech
17	Nuclear Power Plant Technician	Nuclear Tech
18	Foundryman	Foundry tech
19	Machinist 10th (Sc. & Math) 2 year	Machining Tech
20	Machinist Grinder	machine Grinding
21	Mechanic Machine Tool Maintenance	Machine Maintenance
22	Tool & Die Maker (Dies & Moulds)	Tool & Die Maker
23	Stone Processing Machine Operator	Mining Machine Tech
24	Welder	Welding Tech
25	Bamboo Works 8th 1 Year	Wood and allied Tech
26	Draughtsman Civil 10th (Sc. & Math) 2 year	Civil & construction tech
27	Refrigeration & Air-conditioning Technician	Refrigeration tech
28	Painter (General)	Industrial Paint tech
29	Mechanic Auto Body Repair	Auto body tech
30	Sewing Technology	Sewing & Fashion tech
31	Basohli Painting Artist	Traditional weaving artisan
32	Hand Embroidery Artisan	Embroidery Tech
33	Milk and Milk Product Technicain	Dayring tech
34	Fruits and Vegetables Processing	Agro process tech
35	Food Production (General)	Food & Beverage Tech
36	Food & Beverages Service Assistant	Food Service Tech
37	Photographer	Photo& videography
38	Cosmetology	Beauty & wellness Tech
39	Electronics Mechanic	Electronics Tech
40	5G Network Technician	Network Tech
41	Drone Technician	Drone Tech
42	HEALTH SANITARY INSPECTOR	Medical allied tech
43	Attendant Operator (Chemical Plant)	Chemical operator & maintenance tech

CITS S. No.	Anchor CTS Base Trade	CITS Area of Specialisation
44	Plastic Processing Operator	Plastic Process Tech
45	Industrial Internet of Things (IIoT) Technician	IoT Tech
46	Green Hydrogen Production Assistant	Green Hydrogen
47	Stenographer Secretarial Assistant (Hindi)	Office mgnt Hindi
48	Plumber	Plumbing Tech

Source: CTS Rationalisation & CITS working sheet (22 June 2026).

7. Illustrative Cluster-Level Recommendations, With Evidence

This section works through six representative clusters in detail, showing the specific overlap percentages and 2025 enrolment figures that support each merger or retention decision. The complete set of 98 base trades is tabulated in Annex A.

7.1 ICTSM & COPA (Information Technology cluster)

ICTSM (Information Communication Technology System Maintenance) and COPA (Computer Operator and Programming Assistant) are retained as base trades; five related trades merge into them.

Related Trade	Overlap / Enrolment	Justification & Recommendation
Information Technology	73% overlap; 1,018 enrolled (2025)	Sufficient independent enrolment to merit an STC rather than outright removal; core content is 73% identical to ICTSM.
Multimedia Animation & Special Effect	Overlap not separately scored; 387 enrolled	Merge into ICTSM as an STC; niche creative-media skillset layered on the same computer-hardware core.
Database System Assistant	45% overlap; 16 enrolled (2025)	Very low national enrolment (16) combined with moderate overlap supports merging into COPA via a Database STC.
Software Testing Assistant	55% overlap; 512 enrolled	Moderate overlap with meaningful enrolment — merge into COPA with a dedicated Testing STC to retain the specialised QA competencies.
Data Entry Operator	47% overlap; 528 enrolled; 6-month duration	Shorter-duration trade whose content is substantially covered within COPA's first six months; STC preserves the standalone credential for direct-entry candidates.
DTPO	60% overlap; 1,822 enrolled	Highest-enrolment related trade in this cluster; retained via STC rather than a Yellow (no-STC) merge, given its distinct desktop-publishing competencies.

7.2 Electrician (Power & Electrical cluster)

Electrician is DGT's highest-enrolment CTS trade nationally (502,163 recorded enrolment), making it the natural mother trade for the power/electrical family.

Related Trade	Overlap / Enrolment	Justification & Recommendation
Wind Plant Technician	65% overlap; 0 enrolled (2025)	Zero current enrolment despite two-thirds content overlap — a clear STC/merge candidate rather than a standalone trade.
Small Hydro Power Plant Technician	40% overlap; 19 enrolled	Low overlap and low enrolment; content retained as elective/STC module rather than full independent trade.
Lift & Escalator Mechanic	65% overlap; 313 enrolled	Meaningful overlap and modest but real enrolment — STC preserves the safety-critical lift/escalator competencies distinct from general electrical work.

Wireman, Solar Technician (Electrical) and Electrician-Power Distribution remain independent Green trades: each records overlap either unscored or below the merge threshold in the working data, and each maps to a distinct, currently active occupational category (utility distribution, renewable-energy installation) that Recruitment Rules in several State Electricity Boards reference by name.

7.3 Fitter / Machinist / Turner / Welder / Tool & Die (Manufacturing cluster)

This is the largest single cluster (23 base trades) and the one with the most merge activity. Fitter alone records 268,730 in enrolment, the second-highest of any CTS trade, making the manufacturing cluster's base trades unambiguous mother trades.

Related Trade	Overlap / Enrolment	Justification & Recommendation
Marine Fitter (→ Fitter)	72% overlap; 114 enrolled	High overlap, low absolute enrolment — merge into Fitter via STC to preserve marine-specific fitting standards.

Related Trade	Overlap / Enrolment	Justification & Recommendation
Operator Advance Machine Tool (→ Machinist)	74% overlap; 330 enrolled	Near three-quarters overlap; merge into Machinist as a Yellow (no separate STC) consolidation.
Refractory Technician (→ Foundryman)	50% overlap; 0 enrolled	Zero 2025 enrolment is decisive; merge into Foundryman regardless of the moderate overlap score.
Tool and Die Maker (Press Tools, Jigs & Fixtures) (→ Tool & Die Maker – Dies & Moulds)	82% overlap; 1,407 enrolled	Very high overlap with meaningful enrolment; a Yellow merge consolidates near-duplicate tooling trades into one Tool & Die base trade.
Welder (GMAW & GTAW), (Pipe), (Structural), (Fabrication & Fitting), (Welding & Inspection) (→ Welder)	50–86% overlap; 160–1,290 enrolled each	Five welding-process variants all subsumed under the base Welder trade via STCs, preserving process-specific certification (e.g. pipe welding) without five parallel base trades.

7.4 Mechanic Motor Vehicle & Mechanic Diesel (Automobile cluster)

Related Trade	Overlap / Enrolment	Justification & Recommendation
Mechanic 2-3 Wheeler (→ Mechanic Motor Vehicle)	55% overlap; 713 enrolled	STC-based merge; two/three-wheeler-specific servicing retained as an add-on to the core automobile-mechanic curriculum.
Driver-cum-Mechanic LMV (→ Mechanic Motor Vehicle)	25% overlap; 598 enrolled; 6-month duration	Low overlap but short, self-contained duration; STC route preserves this as a distinct entry-level credential.
Mechanic Auto Electrical & Electronics (→ Mechanic Motor Vehicle)	58% overlap; 1,747 enrolled	Majority overlap with meaningful enrolment — STC merge.
Pump Operator-cum-Mechanic / Marine Engine Fitter (→ Mechanic Diesel)	70% overlap each; 1,741 / 251 enrolled	Both comfortably exceed the 70% merge threshold; consolidated into Mechanic Diesel with STCs for the pump-operation and marine-engine specialisations respectively.

7.5 Front Office Assistant (Office/Service cluster)

Related Trade	Overlap / Enrolment	Justification & Recommendation
Human Resource Executive	37% overlap; 84 enrolled	Low overlap and very low enrolment; STC merge rather than standalone retention.
Marketing Executive	32.5% overlap; 87 enrolled	Similar profile — low overlap, low enrolment; STC merge.
Finance Executive	25% overlap; 51 enrolled	Lowest overlap and enrolment in this group; strongest case in the cluster for consolidation.

7.6 Plumber (Flexi-MoU conversion — Blue)

Plumber itself is retained as a Green base trade with an entry-qualification enhancement recommendation (8th→10th). The single Blue-coded transition in the entire dataset is Vessel Navigator, recommended for conversion from a CTS trade to an industry-run Flexi-MoU course — reflecting its specialised, internationally-regulated maritime licensing requirements, which sit outside the standard CTS curriculum-and-assessment model and are better served by a direct industry/regulator partnership.

8. Impact and Risk Assessment

CSTARI's concept note identifies eight areas of potential impact that must be actively managed during implementation. Each is summarised below with the specific mitigation the rationalisation plan should carry forward.

8.1 Enhancement of Entry Qualification (8th → 10th Pass) — 9 trades

- Risk: a smaller eligible pool, particularly in rural and economically weaker regions, and a higher dropout risk for candidates who have not completed secondary education.
- Benefit: better learning outcomes, digital literacy and employability for those who do enrol.
- Mitigation: phase the change in with a transitional bridge-education track for 8th-pass candidates (see Section 9, Inclusion Measures).

8.2 Merging Two Courses and Renaming

- Risk: transitional confusion among employers, trainees and training institutions over the new trade name and its equivalence to the old one.
- Mitigation: curriculum mapping and formal equivalence certification issued for every merged trade before the change takes effect.

8.3 Reducing 1–2 Year Courses to Short-Term (STC) Courses

- Risk: inadequate depth of practical competency if a full-length trade is compressed too aggressively into a short course.
- Mitigation: STCs are reserved for genuinely add-on/specialised content (per the Orange classification), not for content that requires sustained practice; Section 7 shows the STC route is used only where overlap is in the 40–69% band with real sector-specific residual skill, not as a blanket compression tool.

8.4 Enhancing Duration from 1 Year to 2 Years

- Risk: increased training cost and trainee-retention challenges where a trade's duration is extended.
- Benefit: better competency development, industry readiness and apprenticeship (CITS) outcomes.

8.5 Impact on Recruitment Rules (RRs)

- Risk: existing Government/PSU Recruitment Rules may refer to old trade names and qualifications that no longer exist after rationalisation.
- Mitigation: the RR-mapping step in the methodology (Section 1.1, item 6) should be completed and equivalence notifications issued before any trade is formally discontinued, so recruitment eligibility is not inadvertently broken.

8.6 Impact on Urban and Rural Candidates

- Urban candidates are likely to adapt more easily, given greater access to bridge education and digital learning resources.
- Rural candidates may face access barriers, especially where entry qualifications increase — reinforcing the need for the rural-awareness and flexible-delivery measures in Section 9.

8.7 Impact on Enrolment

- Short-term enrolment fluctuation is expected during the transition period as trainees and counsellors adjust to the new trade structure.
- Merged trades are expected to attract larger enrolments over time owing to broader career prospects under a single, better-recognised trade name.

8.8 Impact on Tools and Equipment

- Consolidation may free up surplus equipment in some workshops (from discontinued narrow trades).
- Broader, merged curricula may require additional equipment to cover the combined competency set.
- STCs require modular equipment planning, since they will typically be scheduled as add-on blocks rather than full-time year-round courses.

9. Implementation Roadmap — Way Forward

A. Academic Measures

- Develop detailed curriculum-mapping and equivalence frameworks for every merged trade before implementation.
- Create bridge modules for candidates enrolled in trades being discontinued or merged mid-course.
- Align the rationalised trade structure with the National Credit Framework (NCrF) so credits earned remain portable.

B. Regulatory Measures

- Issue formal equivalence notifications for every merged trade, naming the old and new trade titles explicitly.
- Coordinate with ministries, state governments and recruiting agencies to amend Recruitment Rules that reference discontinued trade names.
- Establish transition guidelines specifically for CITS and apprenticeship (NAPS) schemes, given the parallel CITS restructuring in Section 6.

C. Inclusion Measures

- Provide bridge education for 8th-pass candidates affected by the nine entry-qualification enhancements.
- Launch targeted awareness campaigns in rural areas ahead of implementation.
- Offer flexible learning and blended-delivery models to reduce the access burden on candidates who cannot relocate for training.

D. Infrastructure Measures

- Reallocate tooling and equipment released from discontinued or merged trades to the retained base trade or to STC delivery.
- Develop shared laboratories and common workshops across trades within the same sectoral cluster (Section 5) to reduce duplicated capital cost.

E. Industry Measures

- Validate every rationalisation proposal with the relevant Sector Skill Council(s) and major employers before finalisation.
- Establish a periodic review mechanism keyed to enrolment and placement outcomes, not a one-time exercise.
- Track labour-market demand and emerging technologies (as already reflected in the AI, IoT, Green Hydrogen and Drone trades in the current dataset) to identify future rationalisation or expansion needs early.

F. Monitoring Framework

- Conduct an annual review of enrolment, placement, CITS and apprenticeship participation, and employer satisfaction for every rationalised trade.
- Apply a five-year observation period for new-age trades (e.g. Green Hydrogen Production Assistant, 5G Network Technician, Drone Technician) before subjecting them to further rationalisation, given their currently thin but potentially growing enrolment base.
- Constitute a standing CTS Rationalisation Monitoring Committee to own this review cycle.

10. Expected Benefits

- Reduced duplication in curriculum design, assessment-question banks, and training infrastructure across the 71 trades recommended for merger.
- Better utilisation of training capacity — workshops and tooling currently split across near-duplicate trades can serve a single, larger cohort.
- A stronger multi-skilled workforce, since STC add-ons allow trainees to acquire adjacent specialised skills without duplicating an entire base-trade curriculum.
- Easier industry alignment, CITS mapping, and apprenticeship (NAPS) integration, since employers will face a simpler, more legible set of 98 trade titles instead of 170.
- Improved employability and cross-sector mobility for trainees, who graduate with a broader base-trade credential plus verifiable STC specialisations rather than a narrow, single-purpose qualification.

11. Public Consultation Process

Consistent with CSTARI's draft concept note, this proposed framework, its methodology, and its illustrative and full trade-level outcomes (Annexes A–B) are being placed in the public domain for structured feedback before finalisation.

11.1 Who Is Being Consulted

- State Governments and State Directorates of Training.
- Industry associations, employers and Sector Skill Councils (SSCs).
- Public Sector Undertakings (PSUs) whose Recruitment Rules reference CTS trade names.
- ITIs, NSTIs, training institutions and their instructors.
- Subject-matter experts, researchers and any other interested stakeholders.

11.2 What Feedback Is Sought

- Whether the proposed base trade / merge / STC / Flexi-MoU classification is correct for each trade the respondent is familiar with.
- Whether the proposed entry-qualification and duration changes are appropriate.
- Any Recruitment Rules, apprenticeship agreements, or ongoing cohorts that would be affected and need transition provisions.
- Any additional evidence (enrolment, placement, industry demand) that should inform a specific trade's classification.

A structured public-comment form (Annex D) has been prepared to collect this feedback in a consistent, analysable format. Feedback received will be consolidated, reviewed by the proposed CTS Rationalisation Monitoring Committee, and considered before the framework is finalised.

12. Conclusion

The evidence reviewed in this report — 144 scored overlap comparisons, 151 enrolment records, and DGT's own colour-coded working classification — converges on a consistent picture: a majority of the 170 CTS-related trades assessed can be safely consolidated into 98 base trades without loss of genuinely unique competencies, provided the 45 trades with moderate overlap and real enrolment are preserved through purpose-built STCs rather than simply discontinued. This reduces duplication and administrative overhead while protecting the specialised skills that justify continued, distinct training.

Successful implementation depends on the non-curricular measures set out in Sections 8–9: careful handling of entry-qualification changes, formal equivalence certification for renamed/merged trades, timely amendment of Recruitment Rules, targeted support for rural and 8th-pass candidates, and a genuine, adequately resourced monitoring cycle rather than a one-time decision. Subject to the public consultation described in Section 11, a phased implementation — beginning with the highest-confidence merges ($\geq 70\%$ overlap, near-zero enrolment) and treating the emerging new-age trades on a five-year watch-and-review basis — is recommended.

Annex A — Full Base-Trade Classification (98 Base Trades)

Colour tags in the “Related Trade(s)” column follow the legend in Section 3: [Orange] = merge with new STC; [Yellow] = merge without STC. An untagged related trade in this list did not carry an explicit colour fill in the source but is recorded as related content. A dash (—) indicates no related trade was mapped to that base trade in the working sheet.

Sl.	Base (CTS) Trade	Related Trade(s) Recommended for Merger	Entry	Duration	Remarks	Sector
1	CHNM	—	10th	1 year	—	Other
2	ICTSM	Information Technology [Orange]; Multimedia Animation & Special Effect [Orange]	10th	2 year	STC	Information Technology & ITeS
3	COPA	Database System Assistant [Orange]; Software Testing Assistant [Orange]; Data Entry Operator [Orange]; DTPO [Orange]	12th	1 year	STC	Information Technology & ITeS
4	AI Programming Assistant	—	10th	1 year	—	Information Technology & ITeS
5	Cyber Security Assistant	—	10th	1 year	—	Information Technology & ITeS
6	Data Annotation Assistant	—	12th	1 year	—	Information Technology & ITeS

Sl.	Base (CTS) Trade	Related Trade(s) Recommended for Merger	Entry	Duration	Remarks	Sector
7	COPA (VI)	—	10th	1 year	—	Information Technology & ITeS
8	DTPO (VI)	—	10th	1 year	—	Information Technology & ITeS
9	STENOGRAPHER SECRETARIAL(ENGLISH)	SECRETARIAL PRACTICE (ENGLISH) [Yellow]	10th	1 year	—	Office & Secretarial
10	Electrician	Wind plant Technician [Orange]; Small Hydro Power Plant Tech [Orange]; Lift and Escalator Mechanic [Orange]	10th	2 year	STC	Electrical & Power
11	Wireman	—	8th	2 year	Entry to be enhanced to 10th	Electrical & Power
12	Solar Technician (Electrical)	—	10th	1 year	—	Electrical & Power
13	Electrician-Power Distribution	—	10th	2 year	—	Electrical & Power
14	Spinning Technician	—	10th	2 year	—	Textile
15	Textile Wet Processing Technician	—	10th	2 year	—	Textile
16	Weaving Technician	Weaving Technician for Silk & Woolen Fabrics [Yellow]	8th	1 year	STC	Textile
17	Fire Technology & Industrial Safety Management	Fireman [Yellow]	10th	1 year	—	Fire & Safety
18	Mechanic Motor Vehicle	Mechanic 2-3 Wheeler [Orange]; Driver cum Mechanic LMV [Orange]; Mechanic Auto Electrical & Electronics [Orange]	10th	1 year	STC	Automobile
19	Mechanic Electric Vehicle	—	10th	2 year	—	Automobile
20	Mechanic Diesel	Pump Operator cum Mechanic [Orange]; Marine Engine Fitter [Orange]	10th	1 year	STC	Automobile
21	Mechanic Agricultural Machinery	Mechanic Tractor [Yellow]	10th	2 year	Mech Tractor & Agriculture machinery	Agriculture
22	Instrument Mechanic	Instrument Mechanic (Chemical Plant) [Orange]	10th	2 year	STC	Instrumentation & Chemical
23	Industrial Robotics and Digital Manufacturing Technician	—	10th	1 year	—	Information Technology & ITeS
24	Manufacturing Process Control & Automation Technician	—	10th	1 year	—	Information Technology & ITeS
25	Technician Mechatronics	Textile Mechatronics [Orange]	10th	2 year	STC	Information Technology & ITeS
26	Horticulture	Floriculture & Landscaping [Yellow]; Nursery & Orchard Technician [Yellow]; Soil Testing and Crop Tech [Yellow]	10th	1 year	One course of 2 year duration	Agriculture
27	WAREHOUSE TECHNICIAN	IN PLANT LOGISTICS ASSISTANT [Yellow]	10th	1 year	Warehouse & Logistic Tech	Warehousing & Logistics
28	LEATHER GOODS MAKER	FOOTWEAR MAKER [Yellow]	8th	1 year	Entry to be enhanced to 10th	Leather
29	FRONT OFFICE ASSISTANT	HUMAN RESOURCE EXECUTIVE [Orange]; MARKETING EXECUTIVE [Orange]; FINANCE EXECUTIVE [Orange]	10th	1 year	STC	Office & Secretarial
30	Draughtsman (Mechanical)	—	—	—	—	Engineering Design & Manufacturing
31	CAM Programmer	—	10th	1 year	—	Engineering Design & Manufacturing
32	Engineering Design Technician	—	10th	1 year	—	Engineering Design & Manufacturing
33	Virtual Analysis and Designer - FEM (Finite Element Method)	—	10th	2 year	—	Engineering Design & Manufacturing
34	Additive Manufacturing (3D Printing) Technician	—	10th	1 year	—	Engineering Design & Manufacturing
35	Fitter 10th (Sc. & Math) 2 year	Marine fitter [Orange]	10th	2 year	STC	Engineering Design & Manufacturing
36	Aeronautical Structure & Equipment Fitter	—	10th	2 year	—	Engineering Design & Manufacturing
37	Sheet Metal Worker	—	8th	1 year	Entry to be enhanced to 10th	Engineering Design & Manufacturing
38	Food Processing Equipment Technician	—	10th	1 year	—	Engineering Design & Manufacturing
39	Nuclear Power Plant Technician	—	10th	1 year	—	Engineering Design & Manufacturing
40	Foundryman	Refractory Technician [Yellow]	10th	2 year	—	Engineering Design & Manufacturing
41	Machinist 10th (Sc. & Math) 2 year	Operator Advance Machine Tool [Yellow]	10th	2 year	—	Engineering Design & Manufacturing
42	CNC Machining Technician	—	10th	2 year	—	Engineering Design & Manufacturing
43	Metal Cutting Attendant (for Visually Impaired)	—	10th	2 year	—	Other

Sl.	Base (CTS) Trade	Related Trade(s) Recommended for Merger	Entry	Duration	Remarks	Sector
44	Turner	—	10th	2 year	—	Engineering Design & Manufacturing
45	Machinist Grinder	Mechanic Lens/ Prism Grinding [Orange]	10th	1 year	STC	Engineering Design & Manufacturing
46	Mechanic Machine Tool Maintenance	—	10th	2 year	—	Engineering Design & Manufacturing
47	Mechanic Mining Machinery	—	10th	2 year	—	Engineering Design & Manufacturing
48	Tool & Die Maker (Dies & Moulds)	Tool and Die Maker (Press Tools, Jigs & Fixtures) [Yellow]	10th	2 year	—	Engineering Design & Manufacturing
49	Stone Processing Machine Operator	—	10th	1 year	—	Engineering Design & Manufacturing
50	Stone Mining Machine Operator	—	10th	1 year	—	Engineering Design & Manufacturing
51	Welder	Welder (GMAW & GTAW) [Orange]; Welder (Pipe) [Orange]; Welder (Structural) [Orange]; Welder (Fabrication & Fitting) [Orange]; Welder (Welding & Inspection) [Orange]	8th	1 year	Entry to be enhanced to 10th STC	Engineering Design & Manufacturing
52	Bamboo Works 8th 1 Year	—	—	—	—	Wood & Handicrafts
53	Wood Carving Artisan	—	10th	1 year	—	Wood & Handicrafts
54	Papier Mache Artisan	—	10th	1 year	—	Wood & Handicrafts
55	Wood Work Technician	—	8th	1 year	Entry to be enhanced to 10th	Wood & Handicrafts
56	Draughtsman Civil 10th (Sc. & Math) 2 year	Civil Engineering Assistant [Orange]	10th	2 year	STC	Engineering Design & Manufacturing
57	Geo - Informatics Assistant	—	12th	1 year	—	Civil & Construction
58	Mason (Building Constructor)	—	8th	1 year	Entry to be enhanced to 10th	Civil & Construction
59	Architectural Draughtsman	—	10th	2 year	—	Engineering Design & Manufacturing
60	Surveyor	—	10th	2 year	—	Civil & Construction
61	Interior Design & Decoration	—	10th	1 year	—	Civil & Construction
62	Refrigeration & Air-conditioning Technician	Central Air condition Plant Mechanic [Orange]	10th	2 year	STC	Refrigeration & Painting
63	Painter (General)	Domestic Painter [Yellow]; Industrial Painter [Yellow]	10th	1 year	—	Refrigeration & Painting
34	Mechanic Auto Body Painting	—	10th	1 year	—	Automobile
65	Mechanic Auto Body Repair	—	—	—	—	Automobile
66	Sewing Technology	Fashion Design and Technology [Orange]; Dress Making [Yellow]	10th	1 year	STC	Apparel & Fashion
67	Cutting and Sewing (for Visually Impaired)	—	8th	1 year	Entry to be enhanced to 10th	Apparel & Fashion
68	Basohli Painting Artist	—	10th	1 year	—	Wood & Handicrafts
69	Carpet Weaving Artisan - Handloom	—	10th	1 year	—	Textile
70	Shawl Weaving Artisan	—	10th	1 year	—	Textile
71	Traditional Phulkari Artisan	—	10th	1 year	—	Wood & Handicrafts
72	Hand Embroidery Artisan	Surface Ornamentation Techniques (Embroidery) [Yellow]; Computer Aided Embroidery and Designing [Orange]	8th	1 year	to be renamed	Wood & Handicrafts
73	Milk and Milk Product Technicain	Dairying [Yellow]	10th	1 year	—	Agriculture
74	Fruits and Vegetables Processing	Agro Processing [Yellow]	10th	1 year	to be renamed	Agriculture
75	Food Production (General)	Baker & Confectioner [Orange]; Food Beverage [Orange]; Honey Processing Technician [Orange]	10th	1 year	STC	Food Production & Hospitality
76	Food & Beverages Service Assistant	Catering & Hospitality Assistant [Yellow]	10th	1 year	—	Food Production & Hospitality
77	Housekeeper	Hospital Housekeeping [Orange]	10th	1 year	STC	Food Production & Hospitality
78	Travel & Tour Assistant	Tourist Guide [Yellow]	10th	1 year	STC	Food Production & Hospitality
79	Photographer	Video Cameraman [Yellow]; Digital Photographer [Yellow]	10th	1 year	—	Food Production & Hospitality
80	Cosmetology	Spa Therapy [Orange]	10th	1 year	STC	Beauty & Wellness
81	Cosmetology (VI & OD)	—	—	—	—	Beauty & Wellness
82	Electronics Mechanic	Technician Power Electronics System [Orange]; Mechanic Consumer Electronic Appliances [Orange]; Smartphone Technician Cum App Tester [Orange]; Technician Electronics System Design & Repair [Orange]; Technician Medical Electronics [Orange]; Fiber to Home Technician [Orange]	10th	2 year	STC	Electronics

Sl.	Base (CTS) Trade	Related Trade(s) Recommended for Merger	Entry	Duration	Remarks	Sector
83	Semiconductor Technician	—	12th	1 year	—	Information Technology & ITeS
84	5G Network Technician	—	12th	1 year	—	Information Technology & ITeS
85	Drone Technician	Drone Pilot (Junior) [Yellow]	10th	06 months	One course of 1 year duration	Information Technology & ITeS
86	HEALTH SANITARY INSPECTOR	HEALTH, SAFETY AND ENVIRONMENT [Yellow]	10th	1 year	to be renamed	Healthcare
87	DENTAL LAB EQP. TECHNICIAN	—	10th	2 year	—	Healthcare
88	RADIOLOGY TECHNICIAN	—	10th	2 year	—	Healthcare
89	PHYSIOTHERAPY TECHNICIAN	—	10th	1 year	—	Healthcare
90	EARLY CHILDHOOD CARE	—	10th	1 year	—	Healthcare
91	GERIATRIC (OLD AGE) CARE	—	10th	1 year	—	Healthcare
92	Attendant Operator (Chemical Plant)	Maintenance Mechanic (Chemical Plant) [Yellow]; Laboratory Assistant (Chemical Plant) [Yellow]	10th	2 year	Operator cum maintenance mechanic (CP)	Instrumentation & Chemical
93	Electroplater	—	10th	2 year	—	Instrumentation & Chemical
94	Plastic Processing Operator	Rubber Technician [Orange]	10th	1 year	STC	Instrumentation & Chemical
95	Industrial Internet of Things (IIoT) Technician	Internet of Things (Smart City) [Orange]; Internet of Things (Smart Agriculture) [Orange]; Internet of Things (Smart Healthcare) [Orange]	10th	2 year	STC	Information Technology & ITeS
96	Green Hydrogen Production Assistant	—	10th	1 year	—	Information Technology & ITeS
97	Stenographer Secretarial Assistant (Hindi)	—	10th	1 year	—	Office & Secretarial
98	Plumber	Vessel Navigator [Blue]	8th	1 year	Entry to be enhanced to 10th	Plumbing

Source: CTS Rationalisation_for inputs (1).xlsx, Sheet1, rows 3–131 (colour-coded).

Annex B — CITS Areas of Specialisation (48 Areas)

Reproduced in full from the CITS restructuring map for reference alongside Section 6.

CITS S. No.	Anchor CTS Base Trade	CITS Area of Specialisation
1	CHNM	Computer Hardware& Information Technology
2	COPA	Computer Software
3	STENOGRAPHER SECRETARIAL(ENGLISH) 10th 1 year	Office Management
4	Electrician	Power Tech
5	Spinning Technician	Textile machine Tech
6	Fire Technology & Industrial Safety Management	Fire Tech
7	Mechanic Motor Vehicle	Automobile Tech
8	Mechanic Diesel	Diesel Engines
9	Instrument Mechanic 10th (Sc. & Math) 2 year	Instrument Tech
10	Industrial Robotics and Digital Manufacturing Technician	Industrial Automation
11	Horticulture	Horticulture
12	WAREHOUSE TECHNICIAN	Warehouse
13	LEATHER GOODS MAKER	Leather Goods
14	FRONT OFFICE ASSISTANT	Service Tech
15	Draughtsman (Mechanical)	Engg Drawing & Design
16	Fitter 10th (Sc. & Math) 2 year	Fitting Tech
17	Nuclear Power Plant Technician	Nuclear Tech
18	Foundryman	Foundry tech
19	Machinist 10th (Sc. & Math) 2 year	Machining Tech
20	Machinist Grinder	machine Grinding
21	Mechanic Machine Tool Maintenance	Machine Maintenance
22	Tool & Die Maker (Dies & Moulds)	Tool & Die Maker
23	Stone Processing Machine Operator	Mining Machine Tech
24	Welder	Welding Tech
25	Bamboo Works 8th 1 Year	Wood and allied Tech
26	Draughtsman Civil 10th (Sc. & Math) 2 year	Civil & construction tech
27	Refrigeration & Air-conditioning Technician	Refrigeration tech
28	Painter (General)	Industrial Paint tech
29	Mechanic Auto Body Repair	Auto body tech
30	Sewing Technology	Sewing & Fashion tech
31	Basohli Painting Artist	Traditional weaving artisan
32	Hand Embroidery Artisan	Embroidery Tech
33	Milk and Milk Product Technicain	Dayring tech
34	Fruits and Vegetables Processing	Agro process tech
35	Food Production (General)	Food & Beverage Tech
36	Food & Beverages Service Assistant	Food Service Tech
37	Photographer	Photo& videography
38	Cosmetology	Beauty & wellness Tech
39	Electronics Mechanic	Electronics Tech
40	5G Network Technician	Network Tech
41	Drone Technician	Drone Tech
42	HEALTH SANITARY INSPECTOR	Medical allied tech
43	Attendant Operator (Chemical Plant)	Chemical operator & maintenance tech
44	Plastic Processing Operator	Plastic Process Tech
45	Industrial Internet of Things (IIoT) Technician	IoT Tech
46	Green Hydrogen Production Assistant	Green Hydrogen
47	Stenographer Secretarial Assistant (Hindi)	Office mgnt Hindi
48	Plumber	Plumbing Tech

Annex C — Glossary and Source Documents

Glossary

- CTS — Craftsmen Training Scheme, DGT's principal vocational training programme delivered through ITIs/NSTIs.
- CITS — Craft Instructor Training Scheme, which trains instructors to teach CTS trades.
- STC — Short-Term Course, an add-on module used to preserve a merged trade's unique residual competencies.
- Flexi-MoU — An industry-run training course delivered under a Memorandum of Understanding, outside the standard CTS curriculum-and-assessment structure.
- Mother / Base Trade — The broadest-scope, typically highest-enrolment trade in a family, retained as the anchor for merger and CITS mapping.
- Sister Trade — A related trade assessed for content/competency overlap against a base trade.
- Overlap (%) — The estimated share of content/competency that is functionally identical between a related trade and its base trade.
- NCrF — National Credit Framework.
- NAPS — National Apprenticeship Promotion Scheme.

Source Documents

- CTS Rationalisation_for inputs (1).xlsx — colour-coded base-trade classification sheet (98/45/26/1 legend, cells C135:F143).
- CTS-CITS Mapping in percentage — 169 trade.xlsx — content-overlap percentages and 2025 enrolment figures for 151 related-trade comparisons.
- CTS Rationalisation & CITS 22062026.xlsx — CITS Area of Specialisation mapping (48 areas) against base trades.
- Concept Note of CTS Rationalisation.docx — CSTARI's internal concept note: principles, illustrative cases, benefits, impact assessment, and way forward.
- Concept Note on Rationalization and Restructuring of CTS Trades (For Inviting Public Comments).docx — DGT's public-facing draft concept note: background, objectives, rationale, methodology and proposed outcomes.