



CEDEFOP

European Centre for the Development  
of Vocational Training

# The future of continuing skills development (CSD)

## Four scenarios for reframing skills and VET policy by 2040

Lidia Salvatore, Cedefop expert, VET for adults and apprenticeships



# Why Cedefop foresight on the future of CSD

- **Traditional, institutionally-provided CVET alone** can no longer keep pace with fast-changing technology and work
- **Skills development is lifelong and life-wide** but workplaces, communities and digital learning are still under-leveraged
- **Digital and AI-driven learning ecosystems** are reshaping how people learn, with more autonomy and flexibility
- **The line between learning and working is dissolving:** workplace learning is now essential for innovation and competitiveness
- **AI as the wild card:** the most influential — yet most unpredictable — force shaping skills development by 2040



# Cedefop foresight exercise on continuing skills development by 2040

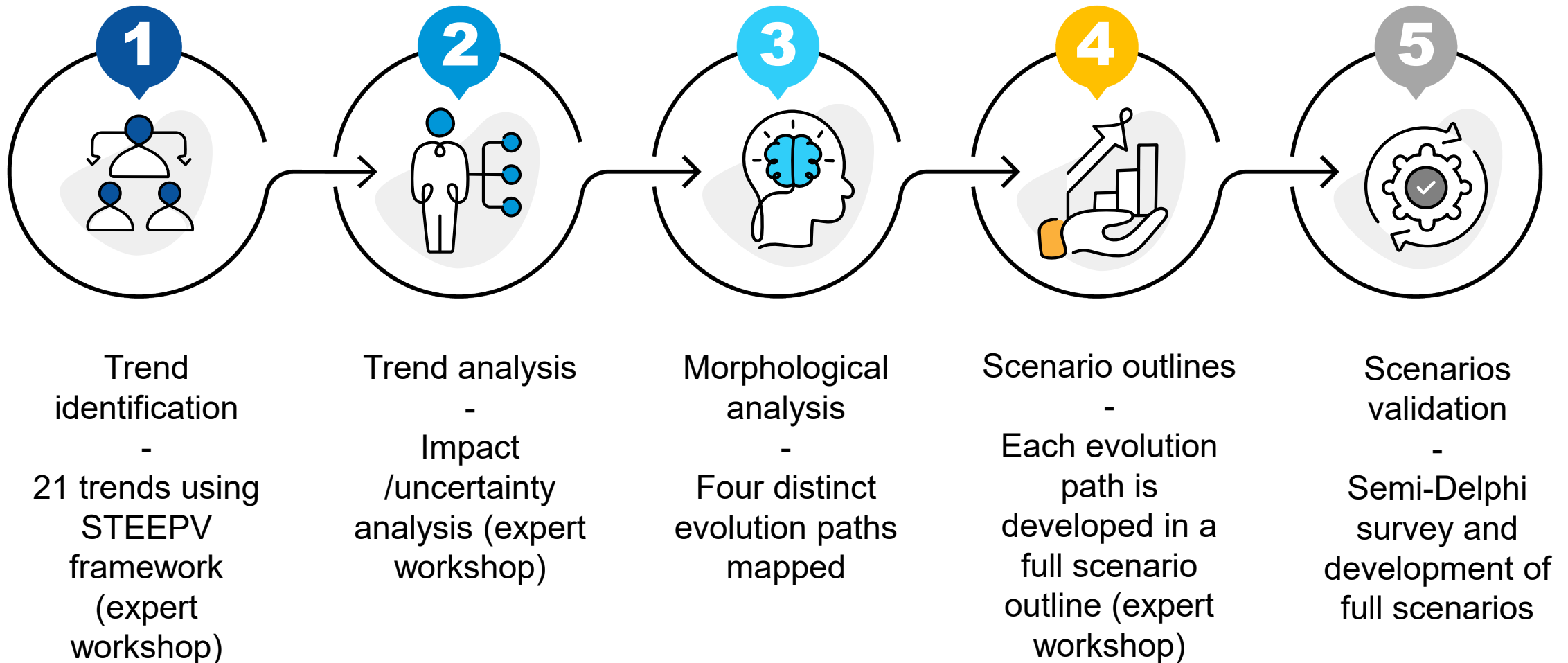


Vision and strategic objectives for 2040



2023 – 2025 multi-phased, participatory process

# Scenario building: methods



# Will the future empower people or deepen inequalities?

## Four structured stories for 2040



### Scenario A: a future of opportunities – technology-driven competition for talent

#### **abundance is shared**

a tight labour market and AI-driven growth create more jobs than workers, and the benefits of technological progress are broadly distributed across the workforce.

### Scenario B: left alone to ride the tide – navigating the AI shock waves on jobs

#### **a two-tier workforce**

state and employers withdraw from workforce development, splitting workers into those who thrive on individual responsibility and those who fall behind, with no institutional safety net.

### Scenario C: staying afloat – AI opportunities missed

#### **manageable but missed potential**

AI uptake is modest and uneven, so change is easily absorbed by existing systems, but the transformative gains (productivity, inclusion, innovation) seen in other scenarios never materialise.

### Scenario D: AI unleashed – dominating the world of work and societies

#### **concentrated power, eroded agency**

a handful of corporations control AI with no regulatory check, most human jobs are displaced, and individuals lose the ability to shape their own careers or skills development.

**Exploratory, not predictions: identify opportunities, mitigate threats and guide stakeholders towards a vision for resilient continuing skills development ecosystems**

# **Scenario A: a future of opportunities – technology-driven competition for talent**

- **Jobs are abundant** — employers compete fiercely for talent and automation opens pathways to higher-value roles
- **Human-centric skills take centre stage** — creativity, judgement and collaboration alongside AI
- **Companies invest heavily in upskilling** — skills development becomes a competitiveness driver
- **Learning embeds into daily workflows** — AI personalises learning at scale, including for disadvantaged learners

**Jobs, workplaces and skills systems reinforce one another, becoming more inclusive, responsive and abundant.**

**Risk: a digital divide excluding those with limited digital literacy or infrastructure**

## **Scenario B: left alone to ride the tide – navigating the AI shock waves on jobs**

- **AI disrupts jobs unevenly** — a two-tier workforce of growth-rich vs. dead-end roles
- **Companies retreat from broad workforce development** — investing only in already-skilled top talent
- **Skills development shifts onto individuals** — support from institutions and employers becomes patchy and unequal. **Meta-learning** (learning how to learn) becomes decisive for survival.
- **“Opportunity deserts” emerge** where infrastructure and institutions are weak

**A polarised "two-tier" labour market where jobs, workplaces and skills development sort people into ‘winners’ and ‘losers’**  
**Risk: widening inequality and individual responsibility gap**

## Scenario C: staying afloat – AI opportunities missed

- **AI adoption is modest and uneven** — no extensive job replacement, technical skills retain their value
- Pressure on **companies** to invest broadly in **upskilling** stays **modest**
- **Learning still generated mostly by traditional providers** — AI's influence on teaching and guidance stays limited
- **Jobs, workplaces and skills systems stay stable** — but transformative gains are largely missed

**Jobs, workplaces and skills systems stay stable and manageable**  
**Risk: the chance to become more productive, inclusive or innovative is largely missed**

## **Scenario D: AI unleashed – dominating the world of work and societies**

- **AI and automation dominate every sector** — massive job losses across industries and skill levels, **workers compete with machines** and **workplace quality erodes** (no autonomy, voice and opportunity for advancement)
- **Companies invest in AI skills only for a small core workforce** — the rest is treated as disposable.
- **Individuals bear full responsibility for skills development** — amid frequent, involuntary career change, with no support.
- **Traditional providers ally with private AI platforms to survive** — unions decline, workers lose their advocate

**Concentrated power, eroded job quality and massive job losses**  
**Risk: workers are left without support and cannot cope with changes**

# What changes across the scenarios

|                           | Scenario A                                                      | Scenario B                                       | Scenario C                                 | Scenario D                                                                         |
|---------------------------|-----------------------------------------------------------------|--------------------------------------------------|--------------------------------------------|------------------------------------------------------------------------------------|
| Jobs                      | Abundant; transformation, not loss — higher-value roles open up | Polarised — dynamic vs. dead-end roles           | Gradual change; little disruption          | Massive losses across sectors and skill levels: machines take over almost all jobs |
| Employer investment       | High — broad upskilling, retention focus                        | Polarised — top talent only                      | Selective, cost-driven                     | Minimal — small AI elite only                                                      |
| Individual responsibility | Shared — employers lead, individuals co-create                  | High — individual responsibility, patchy support | Moderate — roughly as today                | Full — sole responsibility amid forced career change                               |
| Skills systems            | Flexible, AI-enabled, inclusive                                 | Individualised; tech-platform led                | Stable, largely unchanged                  | Allied to private AI players for survival                                          |
| Labour relations          | Peaceful, strong dialogue                                       | Tense, fragmented                                | Modestly peaceful                          | Extremely tense                                                                    |
| Risks                     | Choice overload; digital exclusion                              | Deepening two-tier polarisation                  | Untapped potential; missed inclusion gains | Eroded agency, job quality and oversight                                           |

# Shared tensions, whichever future arrives



**Learning, guidance  
and counselling  
transformation**



**Individual  
responsibility gap**



**AI's dual potential**



**Workplace  
transformation**



**Changing  
employment  
landscape**



**Widening  
inequalities**

# Cedefop foresight: lessons learnt

- **No single future is “safe” to plan for** — the same force (AI) drives radically different outcomes
- **Safeguard against polarisation by design** — close digital, geographic and socio-economic gaps early
- **Employer behaviour, not the technology, is the real fork in the road** — broad upskilling investment spreads benefits widely
- **Individual responsibility without support is not empowerment**
- **Human-centric skills grow more valuable, not less** — true even in the most AI-dominated scenario
- **Strong social dialogue tracks the best outcomes** — fragmentation accompanies the worst

# Thank you

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# A shared European vision for the future of CSD by 2040: key elements

**Lifelong and life-wide for all:** all adults, any background/location/employment status

**Empowered learners:** self-directed pathways, skills recognised however acquired

**Inclusive ecosystems:** quality, adaptable learning across education, work, and community — individuals as co-creators

**Mutual benefit:** individual well-being meets employer competitiveness & innovation

**Shared investment & governance:** sustainable co-financing, trust, social dialogue, multi-level partnerships

**Ethical AI:** augmenting capability, ensuring equitable access

