Designing participation at Austrian Standards: a value-based, micro-modular pathway from awareness to consensus

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DESIGN-BASED RESEARCH · BLENDED · FLIPPED CLASSROOM · VALUE-BASED ILOS · ITCOS KA1 → KA3 · MICRO-MODULAR · 15-MIN UNITS · EX ANTE DESIGN RATIONALE

01 PROBLEM

A systemic gap, and one body's answer to it

The EU Standardisation Strategy names the absence of a scalable pathway for standardisation education a systemic obstacle to competitiveness. Evidence from 90 national standards bodies shows the mission is widely acknowledged and unevenly formalised (Catalani Gabriel et al., 2022). Participation capacity, in turn, shapes a country's ability to steer technology trajectories (Blind & von Laer, 2022).

For more than 30 years, Austrian Standards has been offering an expert-led seminar that introduces new experts to standardization: 300+ slides, little interaction, institutional framing first. Feedback 2019–2025 named a format that was long and dense, and a heterogeneous audience addressed linearly. Participants understood the system, yet did not feel able to comment on a draft. Adding hours does not fix that.

02 RESEARCH QUESTION

Ex ante rationale, meet ex post signal

> How does the first pilot cohort receive a blended pathway aligned ex ante with value-based Intended Learning Outcomes and the Innovative Teaching Concept of Standardisation — and which design principles emerge when that rationale is confronted with ex post first-pilot signals?

The design rationale was published ex ante, with no effectiveness evidence available at that point (Bulc, 2026, 30th EURAS Annual Standardisation Conference). This poster sets out the artefact and its evaluation architecture; the first-pilot results are reported separately in a manuscript currently under review.

03 DESIGN & EVALUATION

How the artefact was built and how it is being assessed

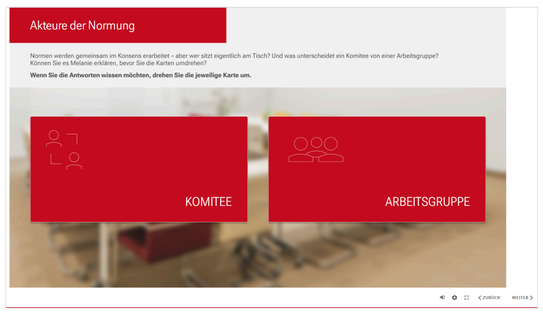
Approach	Design-based research: an artefact is designed against a framework, run, and revised against what the run shows
Architecture	Self-paced online module (micro-units of up to 15 minutes) followed by a one-day in-person training — blended, in the flipped-classroom sense
Alignment	Value clusters and Intended Learning Outcomes derived from the EDU4Standards.eu framework; audience tiers N1–N4 mapped onto ITCoS Knowledge Areas KA1–KA4
Runs	First pilot in-person day 24 June 2026
Evaluation	Four-level Kirkpatrick architecture instrumented from the first run; anonymous collection, no personal identifiers

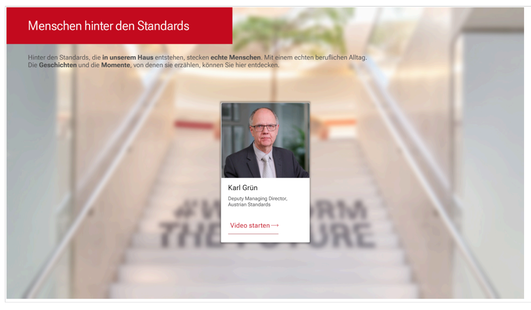
Format, not volume. Awareness moved online into micro-units of up to 15 minutes. The classroom day was given back to process work, guided tool use and a simulation under conflicting interests — the same content, reached by a different route.

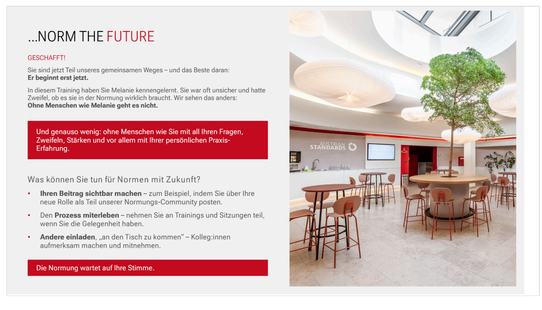
04 THE ARTEFACT

N1 online: it asks before it tells

Melanie, a newcomer to standardisation in her twenties, is the protagonist; the module follows the order of her objections rather than the order of our institutions. Cards turn only once the learner has committed to an answer. Then colleagues appear on screen — "People behind Standards" — and describe their actual working week.







Three of the module's own screens: answer-then-reveal, the people behind the standards, and the closing ask.

STANDARDIZATION PROFESSIONAL · N2 MORNING · 180 MIN · KA2

Roles and processes

09:00	Arrival, icebreaker, recap of the online module
09:30	Committee, mirror committee, working groups; what chair, participant and committee manager each owe the process
10:30	The national route to an ÖNORM: project application, stages, public commenting, committee decisions
11:15	CEN and ISO: voting, what is asked of a delegate, guided work in the committee platform
11:55	Close: what carries, and what the afternoon adds

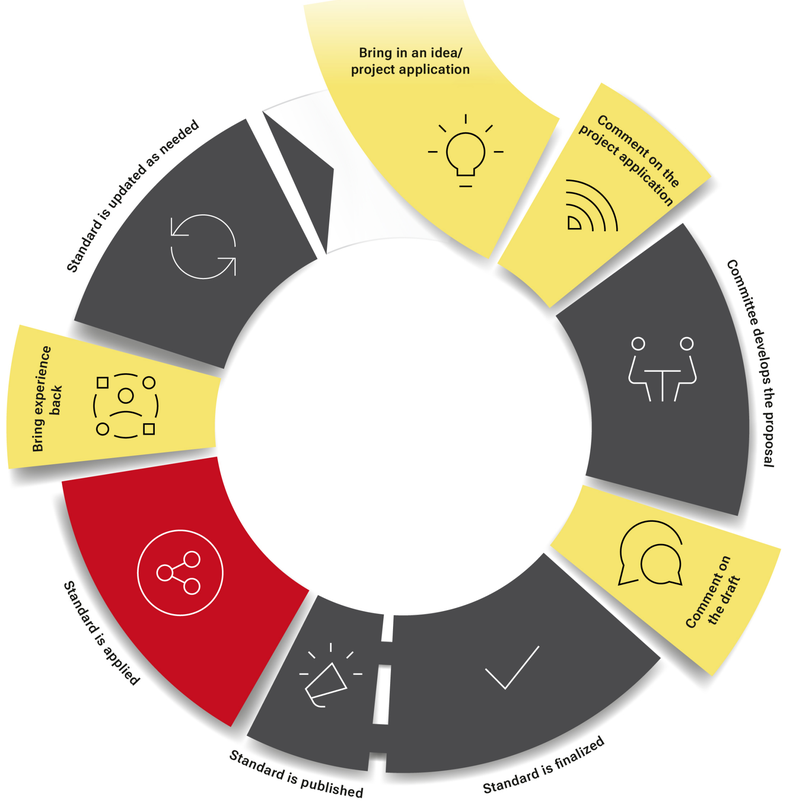
STANDARDIZATION PROFESSIONAL · N3 AFTERNOON · 195 MIN · KA3

Strategic use of standards, run as a serious game

1. Everyone brings a project from their own working life and names the risks a standard could reduce
2. Four roles are dealt out — large enterprise, SME, authority, consumer protection — with objectives that do not agree
3. Each role picks one of three conformity strategies and defends it in writing
4. Event cards hit: a market shift, a recall, a competitor's patent
5. Plenary debrief: who changed course, and which European values were named out loud
6. Everyone leaves holding an action card with their own next step on it

05 THE WHEEL

Yellow is everyone's: comment on a project application, comment on a draft, bring experience back — free of charge, open to anyone who wants to take part. The first act of participation is available the day after the module.



Nine stages of the standardisation cycle; the four yellow segments are open to anyone who wants to take part — free of charge, and without a participation fee. Note: In Austria, participation in standardisation is free of charge according to the Austrian Standardisation Act.

06 THE INTENDED LEARNING ARCHITECTURE

Four value clusters, each with an activity that carries it

VALUE CLUSTER	KA	LEARNING ACTIVITY IN THE PATHWAY
Transparency of procedures and decisions	KA1	Simplified process diagrams; role descriptions; guided walk-through of comment submission
Openness and inclusion	KA1 → KA2	Narrative micro-units built around an SME newcomer; People behind Standards videos; accessible language
Consensus and participation	KA2	Negotiation exercise: small groups agree a simplified standard under time pressure and conflicting interests, then a structured debrief
Responsibility and autonomy	KA3	"I can..." statements linked to the Intended Learning Outcomes; guided reflection on individual next steps



N1 · Starter — KA1, online, 45 + 75 min · N2 · Professional — KA2, morning, 180 min · N3 · Expert — KA3, afternoon, 195 min. A fourth tier at KA4 is named by participants; it carries no badge yet and has not been run.

STATUS The design rationale is published; the first-pilot results are under peer review and are therefore not reported here. Following the pilot, the pathway has been transferred into regular operation and applies the six principles below. Work continues on extending the instrumentation towards Level 3 and on an English-language adaptation, so the pathway can be positioned against the forthcoming CEN Workshop Agreement on harmonised training on standardisation.

Comparable designs welcome: the pathway is documented so that other national standards bodies can replicate the mapping rather than the slides.

07 SIX REFINED DESIGN PRINCIPLES

Candidate, transferable design hypotheses for other national standards bodies and higher-education partners.

1. **Anchor learning in value clusters, not only in process content.** Anchor: the EDU4Standards.eu value strands, at the KA1 → KA2 transition.
2. **Front-load story and people; back-load process detail.** Anchor: openness and inclusion — a newcomer meets people before procedures.
3. **Make committee-tool literacy hands-on, not a slide segment.** Anchor: transparency of procedures; tool literacy is where KA1 becomes KA2.
4. **Signpost the strategic afternoon as explicitly as the process morning.** Anchor: consensus and participation needs a visible frame to read as content.
5. **Build the online module for robustness and short attention windows.** Anchor: accessibility as a form of inclusion.
6. **Instrument Levels 1 and 2 from run one; plan Levels 3 and 4 from run two.** Anchor: responsibility and autonomy — evidence-based iteration is part of the designer's job.

EUROPEAN COMMISSION AND POLICYMAKERS

A worked example of the EU Standardisation Strategy's education objective at national level, with an evaluation architecture attached rather than promised, and a design that can be read against the forthcoming CEN Workshop Agreement and the High-Level Forum on European Standardisation, Workstream 1 on Education & Skills on standards.

UNIVERSITIES AND HIGHER-EDUCATION PARTNERS

Value-based Intended Learning Outcomes mapped onto ITCoS Knowledge Areas, and a flipped structure that transfers to a semester course: awareness asynchronous, contact hours spent on negotiation and conformity decisions.

OTHER NATIONAL STANDARDS BODIES

The mapping, the tier structure and the badge logic are documented so they can be replicated. What does not transfer is the slide set. The free Starter module is the low-cost entry point for any body that has none.

SCOPE AND LIMITATIONS A single-country, single-language pathway at the in-company tier, designed and evaluated in-house. The principles above are design hypotheses for iterative testing, not validated recommendations; behavioural transfer and organisational results remain to be studied longitudinally.

SELECTED REFERENCES Bulc (2026), 30th EURAS Annual Standardisation Conference, Graz · Bishop & Verleger (2013) · Blind & von Laer (2022), doi:10.1007/s10961-021-09871-4 · Catalani Gabriel et al. (2022) · CEN-CENELEC (2025) · EDU4Standards.eu (2024) · European Commission (2022), EU Standardisation Strategy · Garrison & Kanuka (2004) · Kirkpatrick & Kirkpatrick (2016) · Parada et al. (2025) · Value-based ILOs: doi:10.5281/zenodo.14850559 · ITCoS: doi:10.5281/zenodo.15552367

STANDARDIZATION STARTER