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EXPERTISE

**Experienced Purchasers Education Research Transfer for Industry 4.0
Skills Expertise**

White paper for work package 5:

Case Study and Evaluation – From Research to Practice IMPACT!

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Abstract:	<p>Work Package 5 (WP5) of the EXPERTISE project tests how the Skill Assessment Tool and Industry 4.0 learning materials developed in earlier work packages perform in real procurement environments with silver workers (age 50+). Using standardized case studies in Germany, Slovakia, Finland, and the Netherlands, WP5 combines pre-training assessment, guided learning sessions, and post-training evaluation to examine the tools' usability, learning impact, and relevance.</p> <p>The results show that the Skill Assessment Tool effectively highlights competence gaps, especially in digital and data-related areas, and supports reflective learning. The multimodal training materials were well received and matched the learning preferences of older employees, leading to increased confidence and improved understanding of digital procurement practices. The Lighthouse Case Studies demonstrate how research-based resources can be successfully integrated into workplace learning and provide a replicable model for organisations seeking to upskill an ageing workforce.</p>

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1. Introduction: Case Studies as Lighthouse Projects in EXPERTISE

The EXPERTISE project aims to strengthen the digital and Industry 4.0 skills of silver workers, defined as employees aged 50 and above with a permanent position in an organisation, working in procurement and supply management (PSM). Previous work packages (WP2–WP4) of the EXPERTISE project created the conceptual and methodological foundations for understanding the needs of this target group, developing the Skill Assessment Tool (WP3), and designing tailored learning and teaching materials (WP4).

In Work Package 5 (WP5), the consortium moves from concept to practice. The goal is to validate and refine the developed tools by implementing them in real organisations across Germany, Slovakia, Finland and the Netherlands. These case studies serve as Lighthouse Projects: real-world examples that demonstrate how companies and vocational education organisations can integrate skill assessment, targeted learning interventions, and evaluation into their existing structures.

Building on the results of WP2, we know that silver workers often face reduced access to training opportunities, despite their critical role in the labour market. Literature shows that most corporate training programs still target younger workers, while older employees benefit from interactive, practical, and personally relevant learning experiences rather than text-heavy or self-directed digital formats. Expert interviews further revealed that silver workers prefer hands-on, visual, and mentor-guided learning, and that organizations frequently struggle to align technological change with the needs of older employees. These insights strongly influenced the design of the learning sessions in WP5.

The implementation of WP5 therefore provides an essential reality check: testing how the Skill Assessment Tool and age-appropriate training materials perform when used directly with silver workers in procurement settings, and evaluating how well companies can adopt and scale these resources.

1.1 Research Objective of the Case Studies

The primary objective of the WP5 case studies is to examine the real-world applicability, usefulness, and impact of the tools developed in WP3 and WP4. Each case study represents one participating organisation, in which small groups of silver workers, typically one to five employees, completed a structured learning sequence. This sequence included an introduction to the EXPERTISE project, a guided use of the Skill Assessment Tool, participation in learning activities based on WP4 materials, and a final evaluation.

The rationale behind the case studies is grounded in the findings of WP2, which emphasised the need for age-responsive learning opportunities. Older workers are often confronted with rapidly changing digital demands but are rarely offered training designed with their learning preferences in mind. They tend to learn best when content

is immediately relevant to their tasks, when they receive guidance rather than purely self-paced materials, and when new technologies are introduced through hands-on experience rather than abstract explanations. The WP5 case studies therefore aim to test whether the EXPERTISE tools succeed in providing such learning conditions, whether companies can implement them smoothly, and how participants respond to them.

1.2 Research Questions

The WP5 case studies investigate three central research questions that connect theoretical foundations with practical validation:

1. *How effective is the Skill Assessment Tool in identifying competence gaps in Silver Workers?*

This question evaluates the clarity, usability, and diagnostic accuracy of the tool. It responds directly to WP2 findings showing that silver workers often struggle with rapidly changing skill requirements and lack transparent structures for identifying their learning needs

2. *How useful and accessible are the learning materials for upskilling Silver Workers?*

WP2 highlighted that silver workers prefer learning experiences that are hands-on, visual, incrementally paced, and connected to practical examples. This question examines whether the WP4 materials reflect these preferences and whether they reduce anxiety or barriers associated with digital transformation.

3. *What learning methods are preferred and most impactful for this group?*

Interview data indicated strong preferences for mentoring, guided practice, collaborative learning, and opportunities to apply new skills immediately in workplace contexts. WP5 tests which formats yield the highest engagement, satisfaction, and learning outcomes.

By addressing these questions, WP5 assesses both the fitness for use of the developed tools and their potential for transfer to wider vocational and corporate training settings.

1.3 Structure of the White Paper

The remainder of this white paper presents the process and outcomes of WP5 in a structured manner. Following this introduction, Section 2 summarises the key insights from WP2–WP4 that shaped the design of the case studies, highlighting the conceptual development of the Skill Assessment Tool and the pedagogical principles underlying the learning materials. Section 3 outlines the methodological framework of the case studies, including case selection, data collection procedures, execution of learning sessions, and analytical approach. Section 4 presents the results, discussing how participants interacted with the Skill Assessment Tool, how the learning materials were implemented in practice, and what learning outcomes and preferences emerged from

the evaluations. Section 5 interprets these findings in the broader context of research on lifelong learning, digital readiness, and ageing workforces in procurement organisations. The final section concludes with the overall implications of WP5 and explains how the Lighthouse Case Studies can support the dissemination and further application of the EXPERTISE approach in European VET and industry settings.

2. Study Background: Using International Case Studies to Showcase Project Results

The case studies conducted in WP5 are designed to act as international Lighthouse Projects that demonstrate how the EXPERTISE approach can be implemented in real procurement environments. To understand their significance, it is essential to retrace the conceptual and empirical foundations established in WP2, WP3 and WP4. These earlier work packages examined the needs of silver workers, developed a skill measurement tool that identifies competence gaps in the context of Industry 4.0, and produced a comprehensive set of learning materials aligned with the learning preferences of older professionals. Together, these results form the basis on which WP5 evaluates the real-world use, acceptance and impact of the EXPERTISE tools and methodologies.

2.1 Building on the Outcomes of WP2, WP3 & WP4

Work Package 2 offered an extensive analysis of the situation of silver workers in the labour market and their role in organisations undergoing technological transformation. The literature review revealed a clear mismatch between the ageing workforce and the training opportunities available to them. Most corporate education programs continue to be oriented toward younger employees, while workers aged 50 and above face barriers, including limited access to training, perceived age bias, and rapid technological developments that outpace existing learning structures. WP2 showed that silver workers prefer learning formats that are interactive, hands-on, and linked to their professional experience. They benefit from learning environments that provide guidance, practical examples and opportunities for collaborative learning rather than highly abstract, text-heavy or fully self-paced online formats. Moreover, WP2 demonstrated that companies often underestimate the potential of older employees, despite their accumulated expertise, strong organisational loyalty and ability to adapt when provided with appropriate support

Building directly on these findings, WP3 developed the EXPERTISE Skill Assessment Survey and Measurement Tool. The survey collected detailed data on the competence profiles of procurement workers across Europe, including silver workers, and identified frequent gaps in digital skills, data literacy, use of procurement technologies and understanding of Industry 4.0 concepts. The Skill Assessment Tool subsequently translated these insights into a diagnostic instrument that enables individuals to evaluate their competence levels and compare them with a broader database of procurement professionals. The tool visualises strengths and weaknesses, supports reflection and goal setting, and can be used by organisations to identify training needs at the individual or team level. This diagnostic step is a crucial foundation for personalised learning pathways, especially for older employees who often lack structured opportunities to assess their digital readiness.

Work Package 4 then translated the identified skill gaps and learning preferences into a set of instructional materials tailored to the needs of silver workers in procurement.

The materials were developed following contemporary didactic principles aligned with European VET frameworks and were designed to be modular, accessible and easy to integrate into different learning environments. WP4 emphasised the importance of multi-format resources that address diverse learning preferences: visual explanations, microlectures, interactive elements and examples from real procurement practice. In doing so, it responded explicitly to the WP2 insight that silver workers benefit most from applied learning formats that reduce cognitive overload and connect new knowledge to familiar tasks and experiences. WP4 thus produced the pedagogical foundation for the learning interventions that are tested in WP5.

2.2 Industry 4.0 in Purchasing and Supply Management

Digital transformation is reshaping PSM at a rapid pace. Automation, data-driven decision-making and interconnected supply networks are becoming standard features of procurement environments. Industry 4.0 technologies, such as advanced ERP systems, real-time analytics, robotic process automation, artificial intelligence and digital supplier platforms, require procurement professionals to master new digital competencies while continuously adapting to evolving tools.

For procurement organisations, these developments imply a growing need for skills related to data interpretation, digital communication, supplier integration, cybersecurity awareness and the effective use of digital procurement solutions. WP2 showed that many older procurement professionals have strong domain knowledge but feel increasingly insecure about digital innovations and lack opportunities to update their skills in a structured and confidence-building way. This digital skills gap threatens both organisational performance and the long-term inclusion of silver workers in procurement roles.

As digital transformation accelerates, procurement no longer relies solely on negotiation skills and supplier expertise; it demands the ability to work with automated workflows, digital dashboards, scenario simulations and integrated supply chain systems. These shifts underline the need for targeted, age-appropriate training that prepares silver workers to remain productive, motivated and engaged in the Industry 4.0 environment. WP5 therefore examines whether the EXPERTISE learning materials and assessment tool can support this transition.

2.3 Available Learning Materials

The learning materials developed in WP4 form a central element of the WP5 case studies. They consist of four comprehensive learning modules that together include sixteen units. These modules cover essential Industry 4.0 procurement competencies, such as digital awareness, data literacy, collaborative technologies and strategic implications of digital transformation.

To address diverse learning preferences, and especially the preferences identified for silver workers, the materials were produced in multiple formats. Slide-based learning units provide structure and clarity; interactive H5P activities enable practice and

experimentation; microlectures introduce concepts in accessible, short video segments; and assignments encourage reflection and hands-on application. Gamified elements and quizzes help maintain motivation and strengthen comprehension, while curated external resources offer opportunities for deeper exploration.

This multimodal structure reflects WP2 findings that older professionals learn best when content is broken down into manageable parts, when they can repeatedly engage with core concepts and when the learning experience provides both guidance and flexibility. The materials were therefore designed not only to teach Industry 4.0 skills but also to support confidence-building and reduce anxiety about digital competencies. For details on the modules and courses see figure XXX

Modules	Introduction to silver worker and lifelong learning in PSM				Digitalization in systems and processes of PSM in era of Industry 4.0				Data Analytics & Management in PSM				Future strategic goals and trends in PSM			
Units	General PSM	Silver Worker in PSM	Purchasing knowledge and innovation	Purchasing integration	Digitalized procurement systems and IT landscape	Digital strategic sourcing processes	Digital operative procurement processes	Procurement process optimization and atomization	Procurement business analytics	Procurement data management	Procurement data analytics	Procurement data governance	Strategic management of global trends in PSM	Strategic and economic performance	Environmental performance	Resilience of supply chains

Figure 1 - Modules and units of the curriculum

2.4 Silver Workers in Procurement

Silver workers, defined in the EXPERTISE project as employees aged 50 or older in permanent positions, represent a growing segment of the European workforce and play a crucial role in procurement functions. Demographically, Europe is experiencing a steady rise in the proportion of older employees due to increasing life expectancy and declining birth rates, making the retention and upskilling of this group essential for maintaining organisational competitiveness. WP2 highlights that silver workers often bring deep procurement expertise, a strong understanding of supplier relationships and decades of practical experience, making them indispensable contributors to organisational knowledge. However, WP2 also identified several challenges faced by this demographic. Many silver workers experience uncertainty or reduced confidence when confronted with digital tools, accelerated technological change or complex software systems. Motivation can be negatively affected if training formats feel misaligned with their learning style or if organisational structures unintentionally marginalise older employees. Some also report limited inclusion in strategic development initiatives or insufficient opportunities to update their skills. These challenges do not stem from a lack of ability but from inadequate training environments and insufficient recognition of silver workers' learning needs.

Given the pace of digital transformation in procurement, tailored training for professionals aged 50+ is therefore essential. Such training must not only close skill gaps but also respect prior experience, build confidence, and connect new knowledge to existing expertise. The EXPERTISE case studies in WP5 thus explore how effectively the Skill Assessment Tool and the WP4 learning materials support this group and how organisations can design age-responsive learning pathways that sustain the long-term employability of their silver workforce.

3. Methodology: Case Study Framework

The methodology for WP5 follows a structured, multi-stage case study approach designed to evaluate the practical applicability, acceptance, and usefulness of the EXPERTISE Skill Assessment Tool and associated learning materials. Case studies were chosen because they allow the in-depth exploration of complex, real-life situations and support the examination of social, behavioural, and organisational phenomena in their natural context. This approach is widely recognized in organisational and educational research (Eisenhardt, 1989; Stake, 1995; Yin, 2014). Given that silver workers' learning experiences, digital readiness, and workplace conditions are shaped by situational and organisational characteristics, the case study method was particularly well-suited to WP5.

Each case focuses on a single organisation and captures the learning path of 1–5 silver workers through pre-training assessment, learning intervention, and post-training evaluation. Following established methodological guidance, WP5 applies a multiple-case design (Yin, 2014), enabling cross-case comparison and enhancing analytic generalisability. The consortium used unified guidelines, templates, and evaluation instruments to ensure consistency across countries and to generate comparable, high-quality data. These materials include the Case Study Guideline (see Appendix A), the Case Study Report Template (see Appendix B), and the Qualtrics-based Evaluation Scheme (See Appendix C and Appendix D).

3.1 Case Study Design

In WP5, one case study represents one participating company, typically located in the manufacturing or industrial sector and possessing a well-defined procurement function. Each case involved between one and five silver workers, reflecting the realistic size of for a training and ensuring that deep, qualitative insights could be collected for each case. This design aligns with Eisenhardt (1989) recommendation of small sample sizes for exploratory, theory-building case research, as well as Stake (1995) emphasis on understanding individual perspectives within their professional context.

The overarching aim of each case was to apply the EXPERTISE Skill Assessment Tool and learning materials in an organisational setting and to document their impact on competence development, motivation, and learning preferences. The case structure followed the stages defined in the Case Study Guideline (see Appendix A):

1. Pre-training data collection,
2. Learning intervention,
3. Post-training evaluation, and
4. Case documentation (Lighthouse Report).

This enabled a coherent and comparable methodological sequence across all participating countries.

3.2 Data Collection of the Case Studies

Data collection followed a mixed-methods design, combining quantitative measures (e.g., pre/post competence assessment, survey results) with qualitative insights (e.g., interviews, feedback discussions). This triangulation is considered essential for increasing validity in case study research and for capturing complex learning outcomes (Braun & Clarke, 2021; Schoonenboom & Johnson, 2017).

Pre-training data collection

The first phase involved gathering company characteristics, participant demographics, and initial competence levels using the EXPERTISE Skill Assessment Tool. The Case Study Guideline (see Appendix A) explicitly instructed partners to document sector, procurement structure, participant roles and ages, and specific organisational challenges. Participants then completed the digital Skill Assessment Tool, which provided a baseline measure of their Industry 4.0–related procurement competencies. Some partners additionally conducted short interviews to capture expectations, as recommended in the Case Study Report Template (see Appendix B).

Training phase

During the training phase, participants engaged with selected EXPERTISE learning materials in online, offline, or blended formats, depending on the context of the hosting organisation. Consortium partners recorded the type of materials used (modules, H5P activities, assignments, microlectures), session duration, and participant engagement. Engagement logging followed Merriam's (2009) principles of qualitative educational research, where observations and reflective notes form part of the empirical evidence of learning processes.

Post-training data collection

After the learning intervention, participants reflected on the outcomes of the Skill Assessment Tool, enabling pre/post comparison of self-assessed competence levels. In addition, an evaluation form, administered either through Qualtrics, Excel, or facilitated group discussion, captured participants' perceptions of the learning experience, preferred instructional formats, perceived relevance, and suggested improvements. The evaluation scheme was provided through the Qualtrics link included in the guideline (see Appendix D). The use of multiple evaluation channels aligns with best practices for adult learning assessment, which emphasize accessibility, inclusiveness, and opportunities for reflective feedback (Knowles, Holton III, & Swanson, 2014).

Combining quantitative rating scales with open-ended qualitative comments allows for a robust analysis of learning outcomes and user experiences, consistent with Patton (2014) recommendations for mixed-method program evaluation.

3.3 Selection of the Cases

Case selection followed a purposive sampling strategy, common in case study research when the aim is not statistical representativeness but conceptual richness (Palinkas, 2015). Each consortium partner selected at least one organisation in their country, resulting in four internationally distributed cases. The Case Study Guideline (see Appendix A) recommends choosing companies from the manufacturing sector with a developed procurement unit, as these settings are most affected by digital transformation and provide realistic environments for testing the Skill Assessment Tool and learning materials.

Furthermore, participating organisations needed to employ silver workers willing to engage in training activities. This criterion ensures relevance to the target group and aligns with the project's definition of silver workers as individuals aged 50+ in permanent employment.

Case country	Case	Participant	Age	Function	Previous training experience	Motivation for Participation
Germany	1	1	51	Head of procurement	previously completed external training at chambers	strong potential for digital procurement, AI adoption, and process modernization
Germany	1	2	62	Operational buyer	previously completed companies training for procurement	development of new digital competences
Germany	1	3	59	Tactical buyer	previously completed companies training for procurement	learn competencies for challenging sourcing environment
Netherlands	2	4	58	Tactical buyer	previously completed at multiple companies training within the procurement department	motivated to learn how technology can support tactical procurement tasks and can provided insights
Netherlands	2	5	55	Quality management in procurement	previously completed at multiple companies training within the	development of new competences and learn the

					procurement department	potential of new technologies
Netherlands	2	6	61	Operational buyer	previously completed at multiple companies training within the procurement department	to provided further insights to the project, but not motivated to approach a future role in procurement
Finland	3	7	57	CPO	National procurement network-training, training for public procurement, procurement law trainings, local procurement professional's benchmarking, training by consultants	development of new competences
Slovakia	4	8	50- 65	operational purchasing activities, supplier communication, and supporting the contract management process	previously completed internal company training related to their roles as purchasers within the procurement department.	opportunity to take part in a training initiative delivered at an international level
Slovakia	5	9	50- 65	operational purchasing activities, supplier communication, and supporting the contract management process	had previously completed internal company training related to their roles as purchasers within the procurement department.	opportunity to take part in a training initiative delivered at an international level
Slovakia	6	10	50- 65	operational purchasing, supplier communication, and contracting	internal company training related to their roles as purchasers within the procurement department.	opportunity to take part in a training initiative delivered at an international level.

Table 1 - Sample overview

3.4 Execution of the Case Study

The training sessions were conducted either online, offline, or in blended formats, depending on organisational preference and logistical feasibility. Consortium partners hosted the sessions and provided support during the assessment and learning phases, acting as facilitators and observers. This aligns with Denzin and Lincoln (2011) recommendation that case researchers remain actively engaged in the field to capture nuanced social dynamics.

To ensure methodological consistency, all partners used the standardized Case Report Template (see Appendix B). This template guided them in documenting pre-training assessment results, the training intervention, post-training outcomes, and reflections on organisational impact. The structured format reduced variability across cases and allowed the project team to compile coherent cross-case insights.

Case country	Case	Industry	Number of employee	Number of PSM employee	Intervention duration	Number of participant	Delivery mode	Focus	Utilization
Germany	1	Manufacturing: Specialized Interior Construction	300	25	90 min.	3	Online	Module 1	Skill assessment tool, Micro lectures, H5P
Netherlands	2	High precision manufacturing	700	45	90 min.	3	At company location	Module 2	Skill assessment tool, Micro lectures, Assignments
Finland	3		328	3	50 min.	1	Online	Module 1	Skill assessment tool, Micro lectures
Slovakia	4	Manufacturing – Electrical Equipment	500-999	5	varied	3	Online	Module 1-4	Skill assessment tool, Micro lectures, H5P
Slovakia	5	Manufacturing – Motor Vehicles, Trailers and	150-199	4	varied	3	Online	Module 1-4	Skill assessment tool, Micro

		Semi-Trailers							lectures, H5P
Slovakia	6	Human Health Activities – Hospitals (SK NACE Q86)	4000 - 4999	10	varied	3	Online	Module 1-4	Skill assessment tool, Micro lectures, H5P

Table 2 - Case overview - Case overview

3.5 Analysing the Outcome of the Case Study

Data analysis combined quantitative and qualitative techniques. Quantitative data from the Skill Assessment Tool were discussed to identify perceived changes in competence levels. This type of comparison is a common and effective approach for evaluating training impact in adult education.

Qualitative feedback from interviews, open-ended survey questions and workshop discussions was analysed thematically, following Braun and Clarke (2006) guidelines. This allowed the team to identify recurring themes related to learning preferences, perceived relevance, challenges, and suggestions for improvement. Triangulation of data from assessments, observational notes, and narrative feedback further enhanced the trustworthiness of the findings.

The combined analysis supported the identification of improvement areas for both the Skill Assessment Tool and the learning materials, ensuring that the insights gained from each Lighthouse Case contribute to the iterative refinement of the EXPERTISE approach.

4. Results: Developing Silver Workers' Industry 4.0 Skills in Procurement Organizations

The results of the WP5 case studies demonstrate how silver workers across four European countries engaged with the EXPERTISE Skill Assessment Tool and the associated learning materials. The findings highlight patterns in competence gaps, digital readiness, learning preferences, and the perceived usefulness of the materials. While each organisation and participant group presented unique characteristics, the cross-case analysis revealed consistent themes related to the implementation of the tools and the development of Industry 4.0 competencies. The following subsections summarise the main results, supported by illustrative tables and figures provided at the end of each subsection.

4.1 Country-Level Case Outcomes

Case 1: Germany

The German case was conducted at a specialized manufacturing company operating in a complex, craftsmanship-driven sourcing environment. The organization faces demanding procurement challenges, including global suppliers, rare materials, and strict quality requirements.

The Skill Assessment Tool was introduced and discussed extensively. Participants evaluated it as highly useful, particularly appreciating the possibility of comparing individual results with averages and colleagues. The tool was seen as a structured and transparent basis for discussing competencies in performance reviews. Some items required careful reading, but overall usability was rated positively.

Module 1 (Purchasing Knowledge) was presented and discussed. Participants approved of the learning content and recognized its alignment with internal knowledge systems. The potential integration of the tool and modules into the company's internal knowledge platform (Wikimetrika) was explicitly discussed. A key strength identified in this case was the strategic implementation perspective. Participants proposed using the tool before performance reviews and repeating it regularly (e.g., annually or biannually). The tool was also seen as applicable beyond procurement, for example in design functions.

The German case highlights the value of embedding the EXPERTISE results into existing organizational structures. Rather than focusing only on individual learning effects, the discussion centered on long-term institutionalization and systematic competency management.

Case 2: Netherlands

The Dutch case was conducted at a high-precision manufacturing company. Three silver workers in tactical and operational procurement roles participated.

The pre-training assessment revealed skill gaps particularly in digitalization and in strengthening the strategic contribution of procurement. A key finding was that participants experienced difficulty interpreting the skill levels within the assessment framework. The absence of a detailed guideline limited their ability to accurately position themselves within the competency model. Additionally, participants were uncertain about their future career development direction, which made it challenging to link assessment results to concrete development paths.

The intervention consisted of an on-site, 90-minute offline session focused on Module 2 (Digitalization in PSM) and included interactive exercises. Engagement levels were very high, and participants particularly valued the interactive discussions and practical assignments. Feedback indicated that the training served as an “eye-opener” regarding future skill development and the role of technology in tactical procurement. The interactive format and peer discussion were considered the most effective components. Participants expressed strong interest in further professional development and in implementing the materials within the organization.

However, the case highlighted two improvement areas such as a stronger link between future procurement roles and the Skill Assessment Tool. The need for a supporting document explaining competency levels in more detail. Overall, the Dutch case demonstrates that short, focused, interactive interventions can generate high engagement and strategic reflection, particularly when delivered face-to-face.

Case 3: Finland

The Finnish case was conducted at Ekami Group, an educational organization with a small procurement department. One senior procurement professional (CPO) participated. The pre-training assessment identified several development needs, particularly in strategic PSM dimensions. The participant sought input for long-term competence development.

The learning intervention lasted approximately 50 minutes and included video-based materials. Engagement was rated very high (5/5). The strategic dimensions component of Module 1 was evaluated as particularly valuable and comprehensive, offering strong support for strategic development. Some parts of the content were perceived as too superficial for senior-level professionals, while others were considered highly relevant for new employees.

Post-training comparison indicated an increase in self-assessed competencies, especially in general PSM. Overall satisfaction was rated 9 out of 10. The participant expressed interest in applying strategic insights directly in the organization and in disseminating the materials internally.

Language was mentioned as a minor barrier, and a Finnish version of the tool was suggested

The Finnish case demonstrates the relevance of the modules for strategic-level reflection and their potential to support long-term procurement strategy development, particularly when aligned with organizational goals.

Case 4-6: Slovakia

The Slovak case included three organizations from both the private and public sectors: two manufacturing companies and one large public hospital. This selection allowed the evaluation of the EXPERTISE results across different institutional and regulatory contexts, including public procurement legislation.

Pre-training results showed that participants possessed solid competencies in traditional procurement areas such as general PSM, purchasing integration, and operational purchasing practices. However, lower skill levels were identified in digital procurement processes, procurement data governance, data analytics, and structured data management. Employees were confident in day-to-day purchasing tasks but reported limited experience with digital tools and analytical approaches.

The learning intervention was delivered fully online and self-paced, using all four modules and interactive materials. The flexible format was particularly appreciated, as it allowed participants to learn at their own speed. Some initial challenges were reported regarding English terminology and interactive components, especially among older participants with limited prior experience in online learning environments.

Post-training assessment results demonstrated improvements across most domains. Notable progress was observed in digitalized procurement systems, digital sourcing processes, procurement data management, and business analytics. Participants reported greater confidence in handling digital tools and a stronger awareness of data governance and data quality issues.

At the individual level, the intervention led to increased self-confidence, improved data-informed decision-making, and greater openness toward digitalization. At the organizational level, participating companies expressed interest in further training activities and in applying the EXPERTISE materials in practice. The case indicates that the integrated use of the Skill Assessment Tool and all learning modules can effectively support a shift toward more structured and digitally supported procurement practices.

4.2 Cross-Case Comparison

Across all four countries, several common patterns emerge:

1. Digital and Data-Related Skill Gaps

In Slovakia and the Netherlands, clear gaps were identified in digital procurement processes and data-related competencies. The interventions led to improved confidence and awareness in these areas. Even in Germany and Finland, digital and

strategic dimensions were central themes, confirming the relevance of future-oriented competencies across contexts.

2. Positive Perception of the Skill Assessment Tool

The tool was consistently perceived as valuable for self-reflection and structured competency evaluation. In Germany, it was seen as particularly useful for integration into performance management systems. However, both the Netherlands and Finland identified the need for clearer explanations of skill levels and possibly language adaptations.

3. Importance of Delivery Format

Different formats produced strong engagement when aligned with participant needs:

- Slovakia: self-paced online learning supported flexibility
- Netherlands and Germany: interactive offline discussions enhanced engagement
- Finland: concise, video-based content was particularly appreciated

This suggests that blended and flexible delivery formats may maximize impact across different organizational settings.

4. Strategic vs. Operational Focus

Operational buyers (Slovakia, Netherlands) showed strong improvements in digital and data-related competencies. In contrast, senior-level participants (Finland, partly Germany) emphasized strategic development, long-term competence management, and integration into organizational processes.

5. Organizational Impact and Sustainability

In all cases, there was expressed interest in further training and continued use of the EXPERTISE materials. The German case particularly demonstrated strong potential for institutional embedding, while Slovakia highlighted measurable competency improvements. Finland emphasized strategic application, and the Netherlands underscored motivational and awareness effects.

4.3 Use of the Skill Assessment Tool

Across all case studies, participants engaged positively with the Skill Assessment Tool and reported that the self-assessment process increased their awareness of changing skill requirements in procurement. Silver workers often described the tool as “*eye-opening*,” especially in areas related to digital competencies and data literacy, where many identified previously unrecognised gaps. The visual output of the tool was highlighted as particularly helpful for understanding personal strengths and weaknesses.



Figure 2 - Example radar chart of pre-training competence levels by case

The tool revealed a recurring pattern across cases: participants generally rated themselves strongly in traditional procurement competencies (e.g., negotiation, supplier communication, category expertise) but showed lower confidence in digital skills, analytics, and the application of emerging technologies. This aligns with findings from WP2 and WP3 and confirms the relevance of targeted upskilling for the 50+ workforce.

Benchmarking against the EXPERTISE project database allowed participants to compare their results with those of more than 1,000 procurement professionals. Many silver workers expressed surprise at how significantly the field has evolved in recent years and recognised the need for continuous learning to remain effective in digitally transforming environments.

4.4 Application of Learning Materials

4.4.1 Implementation in Real Contexts

The learning materials were delivered in a mix of online, offline, and blended formats, depending on organisational preferences and logistical constraints. In most cases, partners facilitated short workshops that combined microlectures, interactive H5P

activities, and guided group discussions. Participants appreciated the structured delivery and highlighted that the diversified formats kept them motivated and able to follow complex topics without feeling overwhelmed.

Engagement levels were high across all cases, particularly during hands-on segments such as scenario-based exercises and gamified activities. Silver workers generally responded well to exercises that linked new digital competencies to familiar procurement processes, confirming WP2 findings on the importance of contextualised learning.

4.4.2 Assessment of Learning Outcomes

Post-intervention evaluations indicate that participants experienced measurable improvements in confidence and skill awareness. Many reported that the learning materials clarified the practical relevance of Industry 4.0 for procurement and that interactive components supported their understanding more effectively than traditional lecture formats.

Evaluation scores consistently reflected high satisfaction with the clarity and accessibility of the materials. Participants expressed a preference for microlearning videos, visual explanations, and guided exercises, corroborating the learning preferences identified in WP2. Text-heavy or purely theoretical materials were less favoured, particularly among participants with limited digital experience.

The comparison of pre- and post-training skill assessments shows positive shifts in several domains, especially in digital literacy, understanding of procurement technologies, and openness toward new digital tools. While the absolute changes varied between cases, all showed improvement in at least three Industry 4.0 competence categories.

4.5 Evaluation and Improvement of Tools and Materials

Section 4.3 evaluates the two central instruments developed in earlier work packages and implemented in WP5: the EXPERTISE Skill Assessment Tool (WP3) and the Industry 4.0 learning materials (WP4). The Skill Assessment Tool is a structured, digital self-assessment instrument that enables procurement professionals to evaluate their competencies across traditional and Industry 4.0–related domains. It provides a visual output in the form of competence profiles and allows benchmarking against a broader dataset of procurement professionals. The learning materials consist of four modular training units covering digitalisation, data analytics, strategic procurement development, and lifelong learning in PSM. They are delivered in multimodal formats, including microlectures, interactive H5P activities, assignments and structured video content.

The WP5 case studies confirm that both instruments are fundamentally sound, relevant and applicable in real organisational contexts. At the same time, participant feedback

generated valuable insights into how clarity, usability and developmental alignment can be further strengthened.

With regard to the Skill Assessment Tool, participants consistently described the self-assessment process as eye-opening. Many silver workers reported that the structured evaluation made them aware of digital and data-related competence gaps that had previously remained implicit. The radar chart visualisation was perceived as particularly useful because it provided an immediate overview of strengths and weaknesses across multiple dimensions of procurement competence.

However, across several cases, most notably in the Netherlands and Finland, participants indicated that the distinction between competence levels was not always sufficiently transparent. While the categories themselves were considered comprehensive and relevant, some respondents found it challenging to determine what concretely differentiates an intermediate from an advanced level in digital or analytical domains. This suggests that the diagnostic precision of the tool could be enhanced through clearer behavioural descriptors, practical examples for each level and short explanatory guidelines. Such refinements would support more accurate self-positioning and reduce interpretive ambiguity, particularly for users less familiar with structured competence frameworks.

Another improvement area concerns the connection between diagnostic results and career development. While the tool successfully identifies competence gaps, it currently offers limited guidance on how these gaps translate into concrete development pathways or future procurement roles. Several participants expressed uncertainty about how to use their results for long-term planning. Strengthening the link between competence clusters and illustrative procurement role profiles—such as digital sourcing specialist or procurement data analyst—would enhance motivational impact and align the tool more closely with HR development processes.

Language accessibility was also mentioned in some cases. Although participants were generally able to use the English-language tool, terminology related to Industry 4.0 occasionally required additional clarification. Providing translated versions or glossaries could further increase inclusiveness and lower entry barriers for silver workers in non-English-speaking contexts.

Turning to the learning materials, the evaluation across all case studies was largely positive. Participants valued the modular structure and the combination of short video inputs, interactive exercises and reflective elements. The microlearning format was perceived as manageable and cognitively accessible, which aligns with WP2 findings on age-responsive learning design. In particular, video-based explanations and visual representations were repeatedly described as effective for understanding complex digital concepts.

Nonetheless, differentiation by seniority level emerged as an important refinement opportunity. In Finland and Germany, senior procurement professionals indicated that certain introductory components were more suitable for junior staff, whereas strategic-level insights were highly appreciated. Introducing clearly marked foundational and advanced tracks within modules would allow participants to navigate content according to their experience level. This would ensure both accessibility for less digitally experienced employees and sufficient depth for strategic decision-makers.

Participants across countries also emphasised the importance of real procurement case examples. The more strongly Industry 4.0 concepts were connected to familiar sourcing processes, supplier management situations or data analysis scenarios, the higher the engagement. Expanding the use of applied mini-cases, scenario-based exercises and step-by-step demonstrations of digital workflows would further strengthen practical relevance.

4.6 Organisational Impact and Transferability

Section 4.4 examines the broader organisational implications of implementing the EXPERTISE Skill Assessment Tool and Industry 4.0 learning modules. While the primary objective of WP5 was to assess individual-level learning outcomes, the case studies reveal that the intervention also generated structural and cultural effects within participating organisations. The Skill Assessment Tool functions not only as an individual reflection instrument but also as a potential foundation for systematic competence management. In the German case, for example, participants explicitly proposed integrating the tool into regular performance review cycles and internal knowledge platforms. This illustrates how a self-assessment instrument can evolve into a strategic HR instrument, supporting transparent development planning and evidence-based training decisions.

Across all cases, participants reported increased confidence in engaging with digital procurement systems, data-driven analysis and automated workflows. Such psychological shifts are critical in digital transformation contexts, particularly for silver workers who may initially perceive technological change as threatening rather than enabling. The learning interventions contributed to reframing digitalisation as an opportunity for professional growth rather than a source of insecurity. In addition, the structured combination of assessment and targeted learning facilitated competence-related dialogue within procurement departments. The tool provided a neutral and standardised vocabulary for discussing strengths, weaknesses and development needs. This contributes to a culture of reflective learning and continuous improvement, which is essential in Industry 4.0 environments characterised by rapid change.

The transferability of the EXPERTISE approach is further demonstrated by its successful implementation across diverse organisational contexts. The case studies included high-precision manufacturing firms, a specialised interior construction company, an educational institution and a public hospital. Despite differences in sector, procurement maturity and delivery format (online versus offline), the core approach—

diagnostic assessment followed by modular, multimodal learning—proved adaptable and effective.

Importantly, all participating organisations expressed interest in continued collaboration or further application of the materials. This indicates that the intervention was not perceived as a one-time pilot activity but as a viable component of long-term competence development strategies. The case studies therefore validate the scalability of the EXPERTISE framework within European VET and corporate procurement environments.

4.7 Cross-Case Synthesis: Success Factors for Silver Worker Industry 4.0 Upskilling

Section 4.5 synthesises the insights from the Lighthouse Case Studies and identifies key success factors for developing Industry 4.0 competencies among silver workers in procurement. By comparing outcomes across Germany, the Netherlands, Finland and Slovakia, recurring patterns emerge that extend beyond individual company contexts.

First, the integration of diagnostic self-assessment with targeted learning content proved central to participant engagement. The Skill Assessment Tool created awareness of competence gaps and provided a structured starting point for development. The subsequent learning modules offered concrete opportunities to address these gaps. This alignment between diagnosis and instruction increased perceived relevance and strengthened intrinsic motivation to engage with the material.

Second, multimodal and guided learning formats were particularly effective for silver workers. Microlectures, visual explanations and structured discussions supported comprehension of complex digital topics. Interactive elements such as H5P exercises and scenario-based tasks were most impactful when accompanied by facilitator guidance or peer exchange. This confirms earlier findings from WP2 that older professionals benefit from contextualised and supported learning environments rather than purely self-directed digital formats.

Third, practical relevance emerged as a decisive engagement factor. Whenever digitalisation and data analytics were directly linked to participants' daily procurement tasks, such as supplier evaluation, contract management or sourcing strategy, learning outcomes were more pronounced. This contextualisation reduced abstraction and allowed participants to integrate new knowledge into existing mental models.

Fourth, organisational embedding significantly enhances sustainability. The greatest long-term impact is achieved when the tools are not treated as isolated training instruments but are integrated into HR systems, performance reviews and internal knowledge platforms. The German case in particular illustrates how institutionalisation transforms individual learning into organisational capability development.

Finally, respect for prior experience is a foundational principle for successful upskilling of silver workers. Across all cases, participants responded positively when the intervention acknowledged their accumulated expertise and framed digital skill development as an extension rather than a replacement of their professional identity. This respectful positioning strengthens motivation, reduces defensiveness and fosters openness toward change.

In summary, the cross-case analysis confirms that the EXPERTISE approach provides a coherent, age-responsive and practically applicable framework for strengthening Industry 4.0 competencies in procurement organisations. The combination of structured self-assessment, modular learning design and organisational integration constitutes a replicable model for inclusive digital transformation in European PSM contexts.

5. Discussion: Implementing Silver Worker Learning in Procurement Organizations

The findings from the Lighthouse Case Studies demonstrate the potential of the EXPERTISE approach to support silver workers in developing Industry 4.0–related competencies in procurement contexts. The results show that a structured combination of diagnostic assessment, modular learning materials and guided learning environments can strengthen digital confidence, increase awareness of competence gaps and foster more strategic engagement with digital transformation in Purchasing and Supply Management (PSM). Beyond individual learning effects, the cases illustrate how age-responsive training concepts can contribute to organisational capability development and inclusive workforce strategies.

This discussion section situates the WP5 findings within the broader academic discourse, reflects on managerial implications, and addresses practical limitations encountered during dissemination and implementation. It also outlines future research and transfer pathways.

5.1 Contribution to Literature

The WP5 results address a notable gap in both academic research and professional training practice: the limited focus on older procurement professionals in the context of Industry 4.0 transformation. While digital skill development has been widely discussed in relation to engineers, IT specialists and younger workforce cohorts, the specific needs of experienced procurement professionals aged 50+ remain underexplored.

By designing and empirically testing a training concept tailored to silver workers, the EXPERTISE project extends the literature on ageing workforces into the procurement domain. Procurement is particularly affected by digitalisation, automation and data-driven decision-making, yet little research has examined how older professionals in this function can be systematically supported during technological change.

The case study findings reinforce theoretical perspectives from adult learning and andragogy, which emphasise self-directed learning, relevance, experience-based reflection and structured guidance. The strong acceptance of microlearning videos, interactive exercises and contextualised examples confirms that multimodal and practice-oriented formats are particularly suitable for older professionals. At the same time, the positive reception of the Skill Assessment Tool demonstrates that structured self-reflection can function as a motivational catalyst when embedded in supportive learning environments.

Moreover, the project contributes to the literature on competence measurement in professional contexts. While self-assessment instruments are widely used in higher education and management development, there is limited empirical evidence on their effectiveness in digitally transforming operational domains such as procurement. The EXPERTISE findings suggest that diagnostic tools, when combined with targeted

learning recommendations, can enhance awareness of digital readiness and stimulate proactive competence development among experienced employees.

5.2 Management Benefits of Industry 4.0 Skills in PSM

From a managerial perspective, the development of Industry 4.0 competencies among silver workers offers significant benefits for procurement organisations. Across the case studies, participants reported increased confidence in interacting with digital procurement systems, data analytics tools and automated workflows. Such shifts in digital mindset are essential for organisations seeking to modernise sourcing processes, improve transparency and leverage data-driven decision-making.

Improved digital competence among experienced procurement professionals enhances both efficiency and strategic contribution. When silver workers feel confident using digital dashboards, supplier platforms or analytics tools, they are better positioned to reduce manual workload, identify optimisation opportunities and participate in long-term value creation initiatives. This strengthens organisational resilience in times of technological change.

The Skill Assessment Tool also provides tangible advantages for HR and talent management practices. It offers a structured and transparent framework for competence dialogue, reducing reliance on subjective judgement during performance evaluations. As illustrated particularly in the German case, the tool can be integrated into appraisal systems, development planning and succession strategies. This transforms training from an ad hoc activity into a systematic element of organisational competence management.

Furthermore, the findings highlight the importance of inclusive training strategies. Rather than assuming limited adaptability among older employees, organisations can leverage their deep procurement expertise while supporting targeted digital upskilling. This aligns with European policy objectives aimed at extending working lives, strengthening lifelong learning and maintaining workforce competitiveness in ageing societies.

However, while implementation at the company level has proven feasible and effective, transfer into established vocational education provider structures has not yet been fully realised. During the project period, it was not possible to formally integrate the EXPERTISE materials into established procurement training programmes offered by professional associations such as BME (Germany), LOGY (Finland) or NEVI (Netherlands). Institutional processes, scheduling cycles and programme accreditation requirements limited immediate adoption within these formal VET frameworks.

Nevertheless, an important step toward broader dissemination has been achieved in the Netherlands. Two dedicated training sessions with NEVI are scheduled for April and June 2026. In each session, approximately 10–15 procurement professionals will be trained using the EXPERTISE content. These sessions represent a significant milestone in transferring the project results from pilot case environments into structured

professional education contexts. They also provide an opportunity to test the scalability of the materials with larger and more heterogeneous participant groups.

The planned NEVI sessions can therefore be seen as a bridge between experimental case-based validation and institutionalised vocational education integration. Their evaluation will offer further insights into the adaptability of the EXPERTISE framework within established professional training ecosystems

5.3 Limitations and Future Research

Despite the positive outcomes, several limitations must be acknowledged. First, the number of participants per case was relatively small (1–5 silver workers per organisation). While this design allowed in-depth qualitative analysis and detailed reflection, it limits statistical generalisability. The multiple-case design supports analytical comparison, but larger-scale studies are required to validate the findings across broader procurement populations.

Second, most participating organisations operated in manufacturing or industrial contexts. Although this reflects sectors strongly affected by digital transformation, future research should expand the sample to include service industries, public procurement authorities and small and medium-sized enterprises across diverse economic environments.

Third, the evaluation relied predominantly on self-assessment and perception-based feedback. While such methods are well established in adult education research, they do not fully capture objective performance improvement. Future studies could incorporate behavioural indicators, digital task simulations or longitudinal tracking of workplace application to assess sustained impact.

A further limitation concerns institutional dissemination. Although company-level implementation was successful, full integration into established VET provider curricula (e.g., BME, LOGY, NEVI) has not yet been achieved. The planned NEVI sessions in 2026 represent an important next step, but systematic embedding into national professional training structures requires longer-term collaboration, alignment with certification frameworks and adaptation to existing programme formats.

Future research should therefore focus on three key areas. First, it should investigate how silver workers apply newly acquired digital competencies over extended periods and how these competencies influence organisational performance. Second, it should examine organisational factors that facilitate or hinder adoption of age-responsive training frameworks. Third, it should explore how the EXPERTISE model can be embedded into national and European procurement education systems, thereby contributing to sustainable competence development infrastructures.

In conclusion, the WP5 findings demonstrate both the promise and the challenges of implementing Industry 4.0 upskilling initiatives for silver workers. The EXPERTISE approach offers a validated and transferable framework, yet its long-term impact will depend on continued institutional collaboration, iterative refinement and broader integration into professional education ecosystems across Europe.

6. Conclusion of the EXPERTISE Project

The WP5 Lighthouse Case Studies represent a decisive step in translating the conceptual, empirical and pedagogical foundations of the EXPERTISE project into concrete organisational practice. By implementing the Skill Assessment Tool and Industry 4.0 learning materials within real procurement environments across Germany, the Netherlands, Finland and Slovakia, the project has moved beyond theoretical development and demonstrated practical feasibility, relevance and impact.

The findings confirm that silver workers can successfully engage with digital transformation when supported by structured, age-responsive learning frameworks. The combination of diagnostic self-assessment and modular, multimodal learning content proved particularly effective. The Skill Assessment Tool enabled participants to systematically reflect on their competence profiles, identify development areas and benchmark their skills against evolving industry expectations. The learning materials translated these insights into accessible and practice-oriented learning experiences, strengthening confidence in digital tools, data analytics and strategic procurement development.

A central conclusion of WP5 is that effective upskilling of older procurement professionals requires alignment between learning design and documented learning preferences. The case studies validate earlier insights from WP2–WP4: silver workers benefit from guided, contextually relevant and practically oriented instruction that builds upon their accumulated expertise. When digital competencies are framed as an extension of existing professional knowledge rather than as a disruptive replacement, motivation and openness toward change increase significantly.

Beyond individual learning effects, the case studies demonstrate organisational value. The EXPERTISE approach provides procurement departments and HR functions with a structured framework for competence dialogue, development planning and long-term talent management. In particular, the integration potential of the Skill Assessment Tool into appraisal systems and internal knowledge platforms highlights how research-based instruments can contribute to sustainable organisational learning cultures. In this sense, the project supports not only individual employability but also organisational adaptability and resilience in the context of Industry 4.0.

Importantly, the results of the EXPERTISE project can be applied in multiple ways, allowing flexible implementation depending on the needs and resources of different stakeholders.

First, individual procurement professionals can independently access the Moodle-based learning environment and engage in self-directed development. The modular structure, microlectures, H5P interactive elements and curated reading materials enable learners to progress at their own pace and focus on competence areas identified through the Skill Assessment Tool. This pathway supports autonomous lifelong learning and is particularly valuable for silver workers seeking flexible and self-paced development opportunities.

Second, companies can adopt and adapt elements of the EXPERTISE materials for internal training initiatives. Slides, assignments, interactive exercises and selected modules can be integrated into existing company training programmes for procurement staff. This enables organisations to design tailored workshops or blended learning formats specifically targeting digital and data-related competencies among silver workers. In doing so, companies can align the materials with their specific procurement systems, digital maturity levels and strategic objectives.

Third, vocational education and training (VET) organisations and professional procurement associations can integrate the project outcomes into structured education programmes. Institutions such as NEVI (Netherlands), BME (Germany) and LOGY/LOGI (Finland) can use the Skill Assessment Tool and learning modules as components within certified procurement training curricula. Although full institutional integration has not yet been realised during the project period, the upcoming NEVI training sessions in April and June 2026—each involving approximately 10–15 procurement professionals—represent an important step toward broader implementation within established professional education ecosystems. These sessions will provide further insights into scalability and institutional embedding.

Finally, the Lighthouse Case Studies serve as replicable models for dissemination across Europe. By documenting implementation processes, participant feedback and lessons learned in a structured and comparable format, the project offers a transferable blueprint for strengthening digital preparedness among ageing procurement professionals. The cases illustrate not only what silver workers need in terms of Industry 4.0 training, but also how such training can be effectively implemented across diverse organisational and educational contexts.

In conclusion, the EXPERTISE project delivers a validated, flexible and age-responsive framework for developing Industry 4.0 competencies in Purchasing and Supply Management. It bridges research and practice, supports inclusive digital transformation and provides practical tools that can be applied at individual, organisational and vocational education levels. Through these multiple application pathways, the project contributes to sustainable, future-oriented competence development for Europe's ageing procurement workforce.

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Appendix

Appendix A: Case Study Guideline – WP5 (EXPERTISE Project)

Goal: Demonstrate the practical impact of the skill assessment tool and learning materials through “lighthouse projects” with real companies, focusing on Silver Workers (age 50+) in procurement departments.

Target: At least one case study per country, involving 1–5 Silver Workers per case (i.e., company). Companies should ideally be in the manufacturing sector and have sophisticated procurement functions.

For evaluating the outcome, please use the Qualtrics:

https://utwentebbs.eu.qualtrics.com/jfe/form/SV_8BzUV0L0GHV8xzo

Case Study Structure

Step	Description	Key Questions	Responses
1. Pre-Training Data Collection	Collect background data on the case company and initial competence level	<ul style="list-style-type: none"> - Company name and sector? - Procurement department size and role? - Age and role of Silver Worker participants? - What are the initial self-assessed skill levels (use the tool)? - Key procurement challenges faced by the company? 	<i>(To be filled in by project partner)</i>
2. Training / Learning Intervention	Implement learning activities using EXPERTISE materials	<ul style="list-style-type: none"> - What learning materials were used? (Module/unit references) - Was the training conducted online or offline? - What format(s) were used? (Lecture, H5P, videos, assignments, etc.) - How long did the intervention last? - How actively did the participants engage with the materials? 	<i>(To be filled in by project partner)</i>
3. Post-Training Data Collection	Collect feedback and assess outcomes	<ul style="list-style-type: none"> - Post-training skill assessment results (same tool) - What changes were observed in competence levels? - Participant satisfaction: What teaching methods did they prefer? - How do participants evaluate the relevance and usability of the content? - Open feedback from participants? 	<i>(To be filled in by project partner and participants)</i>

4. Case Documentation (Lighthouse Showcase)	Document case for publication/dissemination	<ul style="list-style-type: none"> - Summary of the company context and intervention - Observed impacts of the tool and learning materials - Any organizational changes or plans following the training? - Testimonials or quotes from participants or managers? - Lessons learned and recommendations? 	<i>(To be filled in by project partner)</i>
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Tools & Support Provided

- Skill Assessment Tool (latest version from WP3)
- Learning Materials (Modules 1–4, hosted on Moodle or via H5P)
- Evaluation Forms (Pre- and Post-training templates + Qualtrics access)
- Template for Lighthouse Case Reports (to be shared via MS Teams)

Deliverables

- One complete case study report per country
- Standardized data using the table above
- Final documentation submitted by ...
- Selected cases will be featured in the EXPERTISE dissemination portfolio and possibly in academic/industry publications

Appendix B: EXPERTISE - Case Report Template

1. Case Company Profile

Company Name:

Country:

Industry Sector:

Size (number of employees):

Procurement Department (structure, size, key functions):

Reason for Selection: *(Why this company was selected – e.g., manufacturing focus, interest in digital procurement, silver workforce presence, etc.)*

2. Participants Overview

Number of Participants (Silver Workers):

Age Range:

Job Roles:

Previous Training Experience (in procurement or digital skills):

Motivation for Participation: *(Brief narrative or quotes if possible)*

3. Pre-Training Assessment

Date(s) of Initial Assessment:

Assessment Method Used:

- Skill Assessment Tool
- Participant Interview
- Baseline Survey

Key Results:

- Summary of self-assessed skill levels (pre-training)
- Identified gaps or areas for improvement
- Participant expectations

(Include a table or graph if applicable)

4. Learning Intervention

Dates of Training Sessions:

Delivery Mode (tick all that apply):

- ☐ Online
- ☐ Offline
- ☐ Blended

Materials Used (tick all that apply):

- ☐ Module 1 –
- ☐ Module 2 –

- ☐ Module 3 –
- ☐ Module 4 –
- ☐ H5P Interactive Materials
- ☐ Micro Lectures
- ☐ Slide Decks
- ☐ Assignments / Exercises

Duration of Training (total hours):

Trainers Involved:

Level of Engagement:

(Qualitative comments or attendance details)

5. Post-Training Evaluation

Date(s) of Post-Training Assessment:

Assessment Method Used:

- Skill Assessment Tool
- Participant Evaluation Form (Qualtrics or Excel)
- Interviews or Feedback Sessions

Key Findings:

- Changes in self-assessed skill levels
- Participant satisfaction
- Most and least effective components
- Preferred learning formats
- Suggestions for improvement

(Include before/after comparison where possible)

6. Impact and Reflections

Observed Impact (on individual or organizational level):

- Any changes in mindset, confidence, or workflows?
- How was the tool perceived by the procurement department?
- Has the company shown interest in further collaboration or use?

Participant Testimonials (if there are any):

(Quotes from Silver Workers or Managers)

Lessons Learned:

- What worked well?
- What should be adapted in future cases?

Appendix C: Discussion Guide – Evaluation of the EXPERTISE Erasmus+ Course

Introduction by Facilitator

“Thank you all for participating in this course. We would now like to have an open discussion about your experiences. The goal is to understand how useful the training was for developing purchasing and supply management (PSM) skills in the context of Industry 4.0, and to hear your suggestions for improvement. There are no right or wrong answers, please share your honest views.”

1. Participant Background (icebreaker)

- Could you briefly introduce yourself?
- What motivated you to participate in this course?

2. Skills Assessment Tool

- Did you have the opportunity to use the Skills Assessment Tool?
- How complete do you think the tool is in terms of covering important PSM skills?
- Did the tool help you identify your own skill gaps and suitable learning materials?
- How easy was it to use?
- Do you think it could be useful in companies, training institutions, or for Silver Workers (professionals aged 50+)?
- What would you change or improve about the tool?

3. Course Modules

(Facilitator note: Ask module-by-module, but participants may not have followed all modules. Encourage sharing of both positive and critical impressions.)

- **Module 1 – Silver Worker & Lifelong Learning in PSM.**
 - What did you think about the lecture content?
 - How about the interactive parts (assignments, discussions, H5P)?
- **Module 2 – Digitalization in PSM in Industry 4.0**
 - What stood out for you?
 - Did the interactive elements support your learning?
- **Module 3 – Data Analytics & Management in PSM**

- How relevant and useful was this module for your professional practice?
- Did you find the interactive tasks engaging?
- **Module 4 – Future Strategic Goals and Trends in PSM**
 - Did this module provide insights that you can apply in your work?
 - What about the interactive elements here?

4. Linking Skills and Modules

- Do you feel the modules reflected the skills that were highlighted in the Skills Assessment Tool?
- Where do you see a strong connection?
- Where is there a gap?

5. Overall Course Evaluation

- How useful do you think the course is for preparing PSM professionals for Industry 4.0?
- How would you describe the overall structure and design of the course? (e.g., flow, balance between lectures and activities)
- What did you personally find the most useful part of the course?
- What do you think could be improved?
- Do you think this course is especially useful for Silver Workers (50+ professionals)? Why or why not?

6. Closing

- If you could give one piece of advice to improve this course for future participants, what would it be?
- Any other comments or suggestions you'd like to share?

Appendix D: Discussion Guide – Evaluation of the EXPERTISE Erasmus+ Course

For evaluating the outcome, please use the Qualtrics:

https://utwentebbs.eu.qualtrics.com/jfe/form/SV_8BzUV0L0GHV8xzo