

Building Skills Alliances for the Energy Intensive Industries Transformation

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H4C Webinar
Best Practices and Innovative
Solutions in Education for IS, I-US
and CE

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An initiative of the European Commission



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Problem statement

GREEN

Reskilling Needs

The shift towards sustainability requires workers to develop new skills in the emerging eco-friendly technologies.

Energy

Intensive

Industries

TRIPLE TRANSITION

DIGITAL

Skills Gap

As digital technologies like automation and AI become integral, there's a widening skills gap. Many current workers lack the necessary training.

Learner expectation

Learners expects personalized, flexible, and accessible education through datadriven insights, anytime-anywhere access, and interactive, engaging content.

Job Displacement

Automation is replacing traditional manual jobs, creating fears of job loss and necessitating robust retraining programs.

SOCIAL

Aging Workforce

Many experienced workers are nearing retirement, and there's a shortage of younger talent to replace them, risking a loss of industry knowledge.

Attracting Talent

Younger workers are more drawn to tech and green sectors than the steel, causing potential talent shortages.

Internationalization

Shortage of skilled workers in expanding regions, requiring upskilling local workforces while overcoming language barriers and cultural differences.

Enhances efficiency, sustainability, and workforce resilience for long-term competitiveness

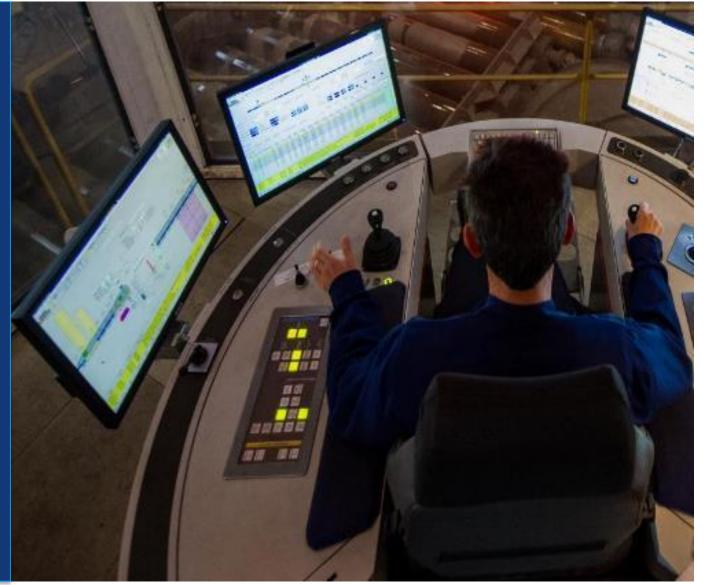
Skills Alliances for an Industry-driven Longterm Skills Strategy



Skills Alliance for Industrial Symbiosis - a Cross-sectoral Blueprint for a Sustainable Process Industry (SPIRE-SAIS)



Agenda Steel":
Industry-driven
sustainable European
Steel Skills Agenda and
Strategy (ESSA)







Skills4EII Partnership Based on the LSP Energy Intensive Industries of the Pact for Skills

Large Scale Partnership for





Energy-Intensive Industries (LSP EII)

The Pact for Skills is comprising 14 industrial ecosystems and more than 2,500 members

The LSP EII is one of the ecosystems and is focussing on Energy-Intensive Industries:

▶ it is based on and further developing two sectoral Alliances:





Composition of LSP EII

- sectors represented so far: Steel,
 Minerals, Water, Engineering, Logistics,
 Non-Ferrous Metals (Aluminium),
 Ceramics, Raw Materials, Welding,
 Chemicals, Cement
- ► Blueprint members and new members
- ► 41 signatories: 8 companies (also training providers), 12 industry associations, 1 union, 1 industry park, 6 training providers, 13 consultancies and research institutions (most of them are also training providers)







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PARTNERSHIP

33 applicants, from 9 EU Member States and Turkey:

- 21 labour market actors are including 4 companies (represented by their training departments) and 17 representative intermediary organisations (trade unions or trade associations, including 3 national ones),
- 8 Higher Education or VET providers (most of them are targeting to Higher Education or both)
- 3 consultancies
- 1 civil society organisation (Circle Economy).

The consultancies, research institutions and education and training providers mostly cover more than one energy intensive industry sector.

Different perspectives complementing each other to form a comprehensive eco-system partnership.

As ESSA and SPIRE-SAIS focused on VET, there is now a stronger focus on Higher Education and the integrated universities.



Objectives

Expected results:

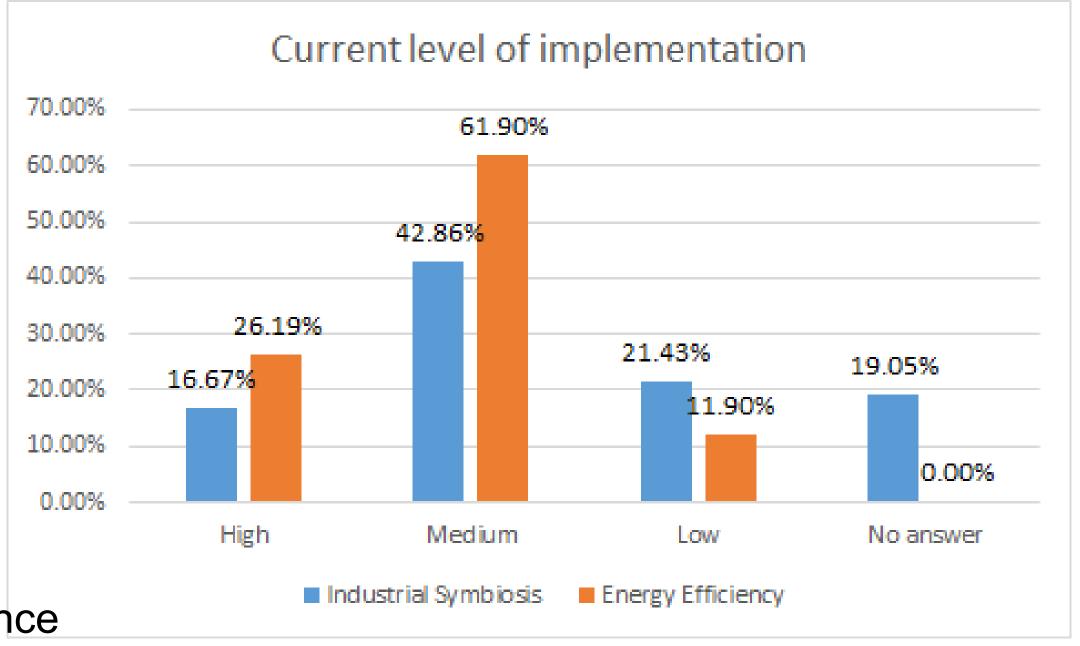
- Adjusting the workforce proactive, to deploy and implement new technologies aiming at an optimisation of the production process
- Monitoring and shorten the implementation of industry relevant qualifications and training
- Political support measures by mobilising and integrating stakeholders and policy makers of the EU and national level;
- Successful cross-sectoral upskilling schemes and efficient management of knowledge;
- More attractiveness of the industries and careers for talented people (recruitment and retention)
- Our mission: Industry-driven proactive adjustment of future skills with the industry and for the industry

Technological and Economic Demands and Skills Requirements

- The current level of implementation and skills is higher for EE rather than for IS
- Beneath internal and industrial actors:
 public actors are also main actors of IS (41%) and EE (48%)
- The main barriers for EE/IS:
 - cost of investments
 - regulatory issues
 - outdated plants, infrastructure and equipment
 - cooperation challenges, integration of regional stakeholders, working across different sectors
 - skills gaps.
- Mainly no specific training programs (57% EE, 74% IS)
 existing training measures are primarily non-formal/unstructured
 but a high training needs: EE 69%, IS 81% (very) large need
 for training
- Middle and high level of skills needs to be updated:
 - Specific job-related technical / professional skills
 - Transversal skills (esp. digital, green and personal skills)
 - Management skills
- IS is leading to new jobs/professions and higher workforce performance
- Difficulties in filling vacant jobs: 72% (very) difficult

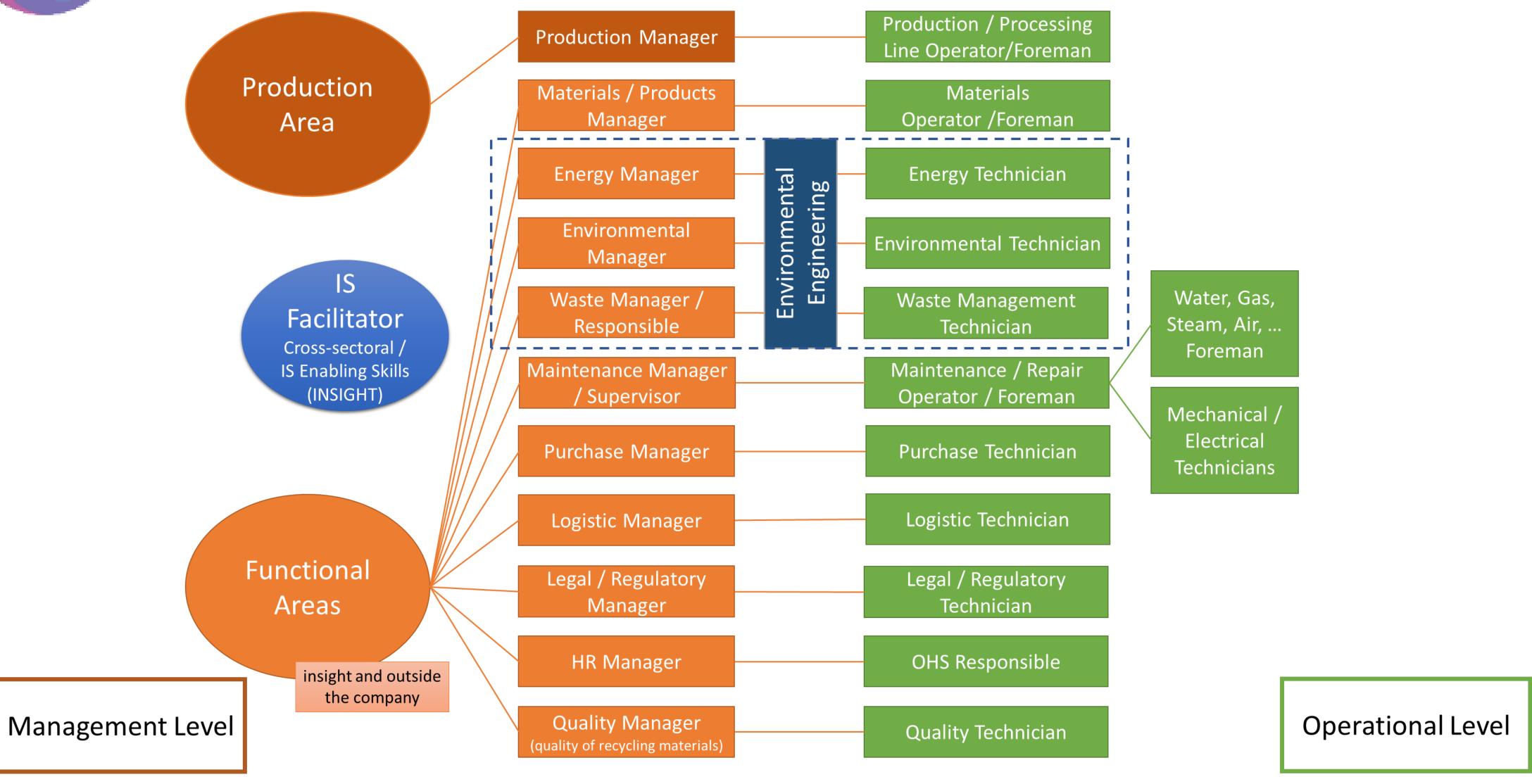








Cross-sectoral Generic Job Profiles



Skills Classification

Management and Operator

Individual / Personal

related

Management



Technological

Industrial Symbiosis

- IS basic understanding (core concepts, resource, re-use and recycling, methodologies)
- System optimisation & process analysis
- Field experience (in IS)
- Product life cycle thinking assessment (incl. eco-design of product, technology and processes)
- Sustainable resource management (incl. waste management - reduction and prevention, water conservation, environmental monitoring)

Energy Efficiency

- Understanding energy use & costs (incl. manufacturing principles to reduce energy consumption)
- Energy management of equipment and parts
- System optimisation & process analysis
- Energy data collection & analysis
 (selection and use of monitoring
 equipment for energy consumption,
 developing and installing analysis
 systems for energy use, monitoring and
 investigating, complex information
 processing and interpretation)
- Field experience (in EE)

Environmental awareness

(of consequences of energy and materials use)

Collaboration

(incl. team-based approach, multidisciplinary thinking and acting, effective communication, ...)

Initiative taking & entrepreneurship (incl. strategic thinking, working autonomously, decision making)

Complementary, systematic, critical thinking

Creativity

General regulatory awareness (incl. legislation, compliance)

Regulatory

Legislation on waste management & CO2 emissions Business knowledge (commercial, economics, complex financial analysis, financial planning/management, accounting and audit)

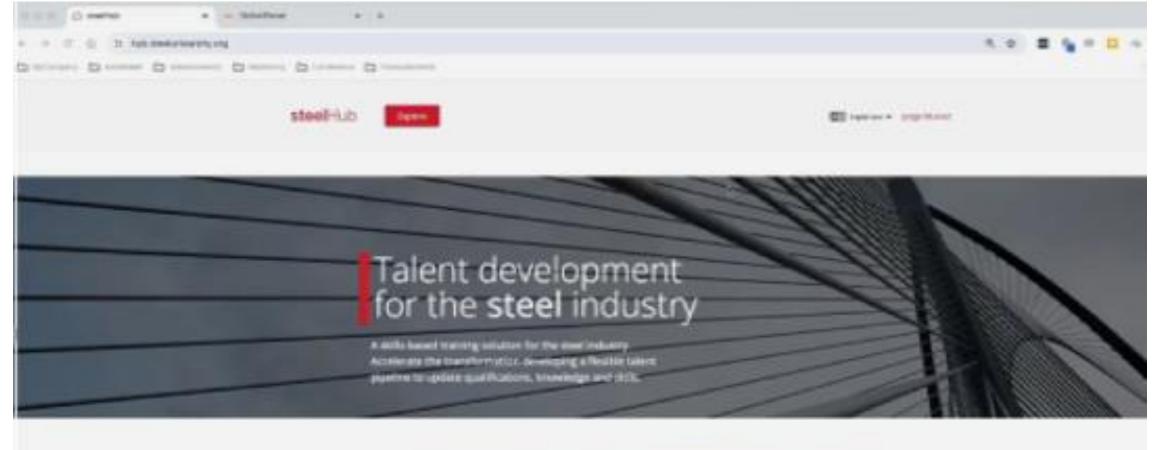
Identification of potential opportunities
(considering emerging trends, entrepreneurial mindset, integrate energy efficiency findings into cross-business plans, business cases)

Fostering cooperation (incl. networking, encourage collective decisions, negotiation)

Business model transformation

Project planning and management

Online Training Platforms: SKILLS4Planet and steelHub





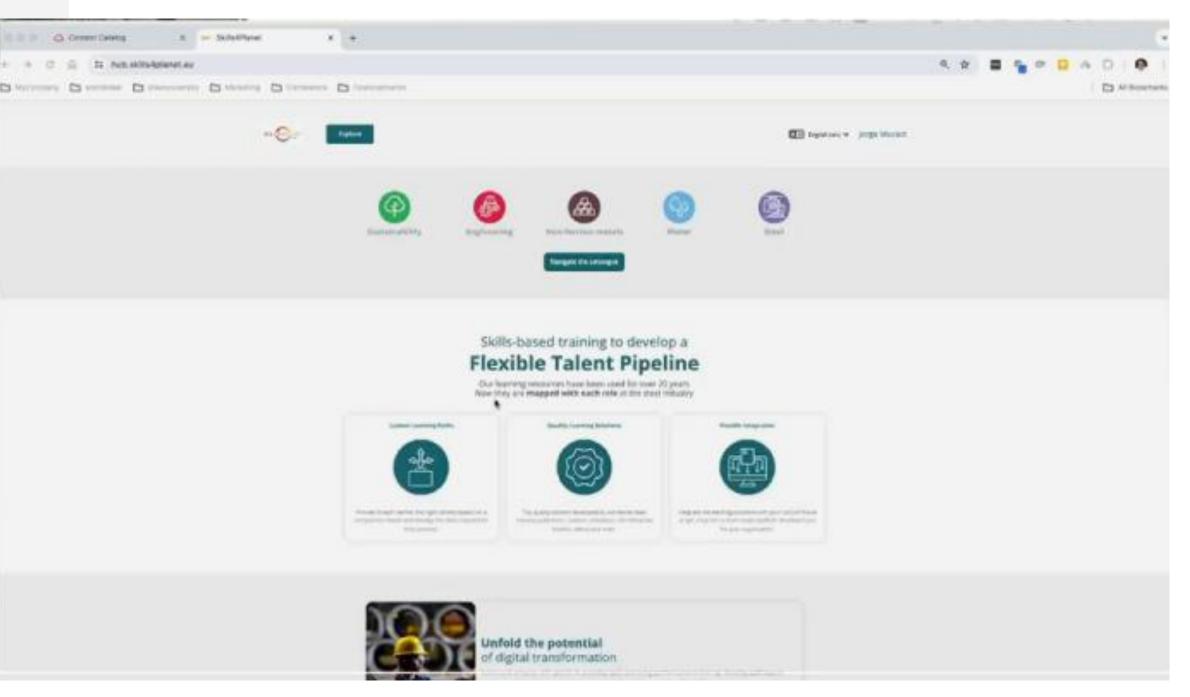
SULLSUPLINET

https://hub.skills4planet.eu/



https://hub.steeluniversity.org





steelHub / SKILLS4Planet Modules







Skill Directory

Value proposition for a standardizes steel sector occupation and skills library



Capability Assessor



Learning solution Directory



Digital



Credentials

Education and Training Alignment

Curriculum

Standards

Development

Certification and

Policy Making and Industry Collaboration

Workforce Strategy

Recruitment and Talent Acquisition

Job Descriptions and Advertisements

Talent Assessment

Workforce Development and Planning

Identifying Skill Gaps

Future-Proofing

Supporting Career Development and Mobility

Career Pathways

Mobility

External pipeline preparing the future workforce

Cross-Sector

Collaboration

Internal pipeline to upskill the workforce

Learning Solution Directory





Classroom and Practical training



E-learnings



Mentoring, Coaching and consultation



Webinars



Game-based learning



3D Models



Animated Videos



VR/AR solutions



Peer-to-peer



Energy Efficiency

This course offers a comprehensive overview of energy efficiency in industry, covering energy audits, system optimization, and sustainable practices.

SUS0210



Industrial Symbiosis

This course delves into industrial symbiosis. Participants will explore case studies and methodologies to foster eco-innovation and sustainability in their sectors, enhancing efficiency and environmental performance.

SUS0310



Strategy for enhanced learning

In this course students will explore innovative techniques to synergize academia and industrial practices, fostering a more integrated learning environment to implement technology for enhanced learning.

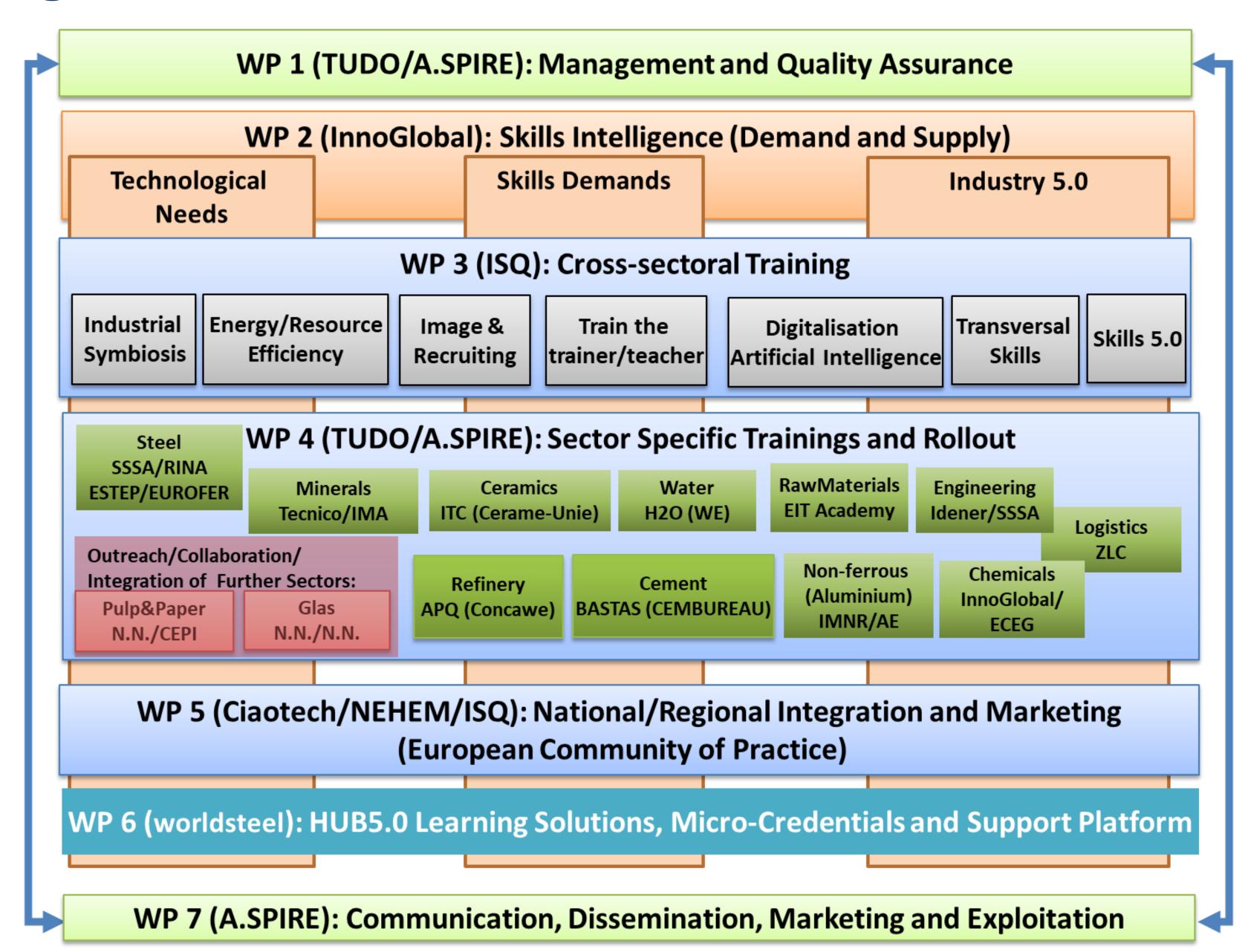
EDU0101

Skills4Ell Work Program



SK1LLS@EII

Skills Alliance for the Green, Digital and Social Transformation of the Energy Intensive Industries





Skills4Ell: WP 2 Skills Intelligence



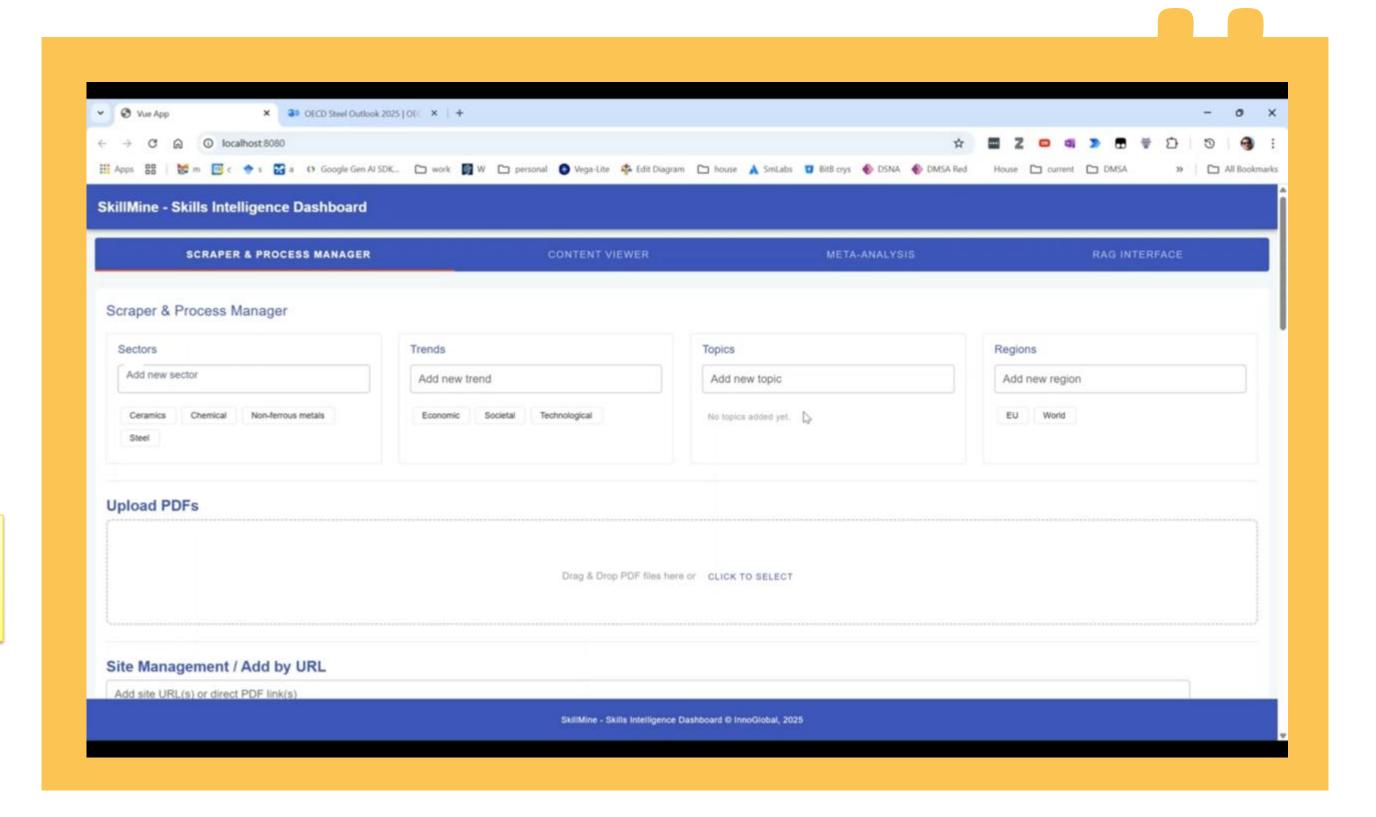
Skills4sight TOOL

- Monitors
 - Reports
 - Trade associations
 - Regulations
 - Company news
- Tracks emerging job & skill trends
- Adaptable for future initiatives

Please participate in our Stakeholder Survey

https://forms.cloud.microsoft/e/x08YvxTHwg

The workforce of today and tomorrow must adapt to digital transformations and changes in production processes, as well as to the new working practices and patterns of work organisation that are being introduced as a result of such developments - ESSA



Roadmap to a Sustainable Skills Alliance



of the Energy Intensive Industries

Foresight Observation (Skills Intelligence)

Continuous technological and skills foresight

Identification of skills gaps Training identification and development

Cross-sectoral, sector specific skills demands and training

European-national-regional Rollout

Sector related nationalregional rollout

European Community of Practice

Integration in existing alliances, platforms, programs and projects

Establishing the Community of Practice of Regional Training Ecosystems

Hub 5.0

Capability Assessment Learning solutions Micro-credentials Support platform

Permanent **Implementation** and Permanent Running

Skills4EII



SK1LLS@EII

Skills Alliance for the Green, Digital and Social Transformation of the Energy Intensive Industries











Thanks for your attention!

ESSA: https://www.estep.eu/essa

SPIRE-SAIS: www.spire2050.eu/sais

Skills4EII:

https://www.aspire2050.eu/skills4eii

LSP EII: https://pact-for-

skills.ec.europa.eu/about/industrial-

ecosystems-and-partnerships/energy-

intensive-industries-large-scale-

<u>partnerships</u> en

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