

chaise

blockchain skills for Europe

The EU Blueprint Project about Blockchain Technology and Education

Andreas Riel, ISCN & ECQA

EuroSPI 2022 TechDay, 29/8/2022, online

Co-funded by
the Erasmus+ Programme
of the European Union



Project Details



PROJECT DURATION	48 MONTHS NOVEMBER 2020 - OCTOBER 2024
PROJECT GRANT	3,998,845 EUROS
PARTNERSHIP	23 PARTNERS + 5 ASSOCIATED
GEOGRAPHICAL COVERAGE	15 COUNTRIES

The CHAISE partnership



- 23 Partners + 5 associates
- 13 + 2 EU countries

Sector representatives	Companies	E&T providers	Entities with regulatory function	Labour market research institutes
INATBA, DIGITALEUR OPE, DIGITAL SME, BERCHAIN, ITALIA4BLOC KCHAIN, ALASTRIA (associated)	INTRASOFT, FUJITSU, IOTA, C4A, INDUSTRIA, EXELIA	UCBL, UPC, UT, UL, DHBW, ESRI, DIEK-AIGALEO (associated)	ECQA, YPEPTH, CPI, CIMEA, ACQUIN, VISC (associated)	DHBW, ESRI, ECORYS (associated), KANEP-GSEE (associated)

Expected outcomes



- A detailed skill needs and mismatches analysis for the European Blockchain Sector (WP2)
- A quantitative forecasting model (D3.1.1) of future blockchain skill supply and demand

An institutionally validated **European Blockchain Skills Strategy (D4.3.1)** to address skill shortages & mismatches

- A 5 semester VET programme (D5.2.1) to address technical, non-technical & cross-discipline skill needs
- Open Educational Resources for Blockchain Training (D5.3.1) in 11 EU languages
- A Massive Open Online Course (MOOC) on Blockchain Skills (D5.6.1), for large scale, open and flexible learning
- Delivery of training to at least 700 individuals (T5.7), reaching out to 50 companies and E&T providers

- A new blockchain specialist occupational profile (D6.1.1) to be embedded into ESCO & ECQA classification systems
- A blueprint and roadmap for the establishment of a blockchain specialisation qualification (D6.3.1)

A **"Blockchain" career guidance & alumni platform (D7.2.1)**, to promote graduates' employability and mobility

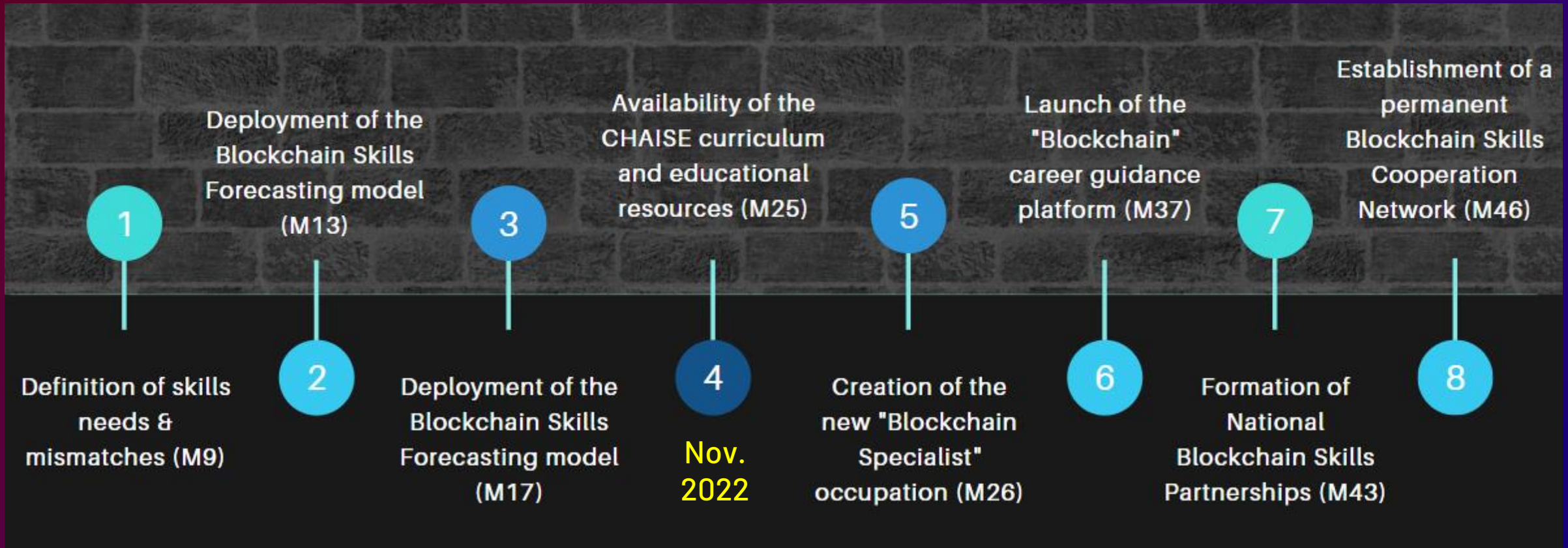
A Memorandum of Cooperation (D9.1.1) among stakeholders for a European Blockchain Skill Cooperation Network

Work package Structure



UMBRELLA	SKILLS INTELLIGENCE & TRAINING	RECOGNITION AND MOBILITY	MAINSTREAMING
<p>WP1: PROJECT MANAGEMENT</p>	<p>WP2: SKILLS NEED INTELLIGENCE</p>	<p>WP6: OCCUPATIONAL REQUIREMENTS, RECOGNITION AND CERTIFICATION</p>	<p>WP4: SETTING UP A EUROPEAN BLOCKCHAIN SKILLS STRATEGY</p>
<p>WP8: DISSEMINATION AND COMMUNICATION ACTIVITIES</p>	<p>WP3: FORECASTING FRAMEWORK FOR THE ANTICIPATION OF FUTURE BLOCKCHAIN SKILL NEEDS</p>	<p>WP7: BLOCKCHAIN STUDENTS & PROFESSIONAL MOBILITY SUPPORT</p>	<p>WP9: SUSTAINING & EXTENDING THE SECTORAL COOPERATION ON BLOCKCHAIN SKILLS</p>
<p>WP10: QUALITY ASSURANCE AND EVALUATION</p>	<p>WP5: JOINT CURRICULUM DESIGN AND DELIVERY</p>		

Key Milestones



**Free on-line courses:
Jan. – Apr. 2023**



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Occupational Profiles

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Educational Modules for BC Architect (A), BC Developer (D) and BC Manager (M)



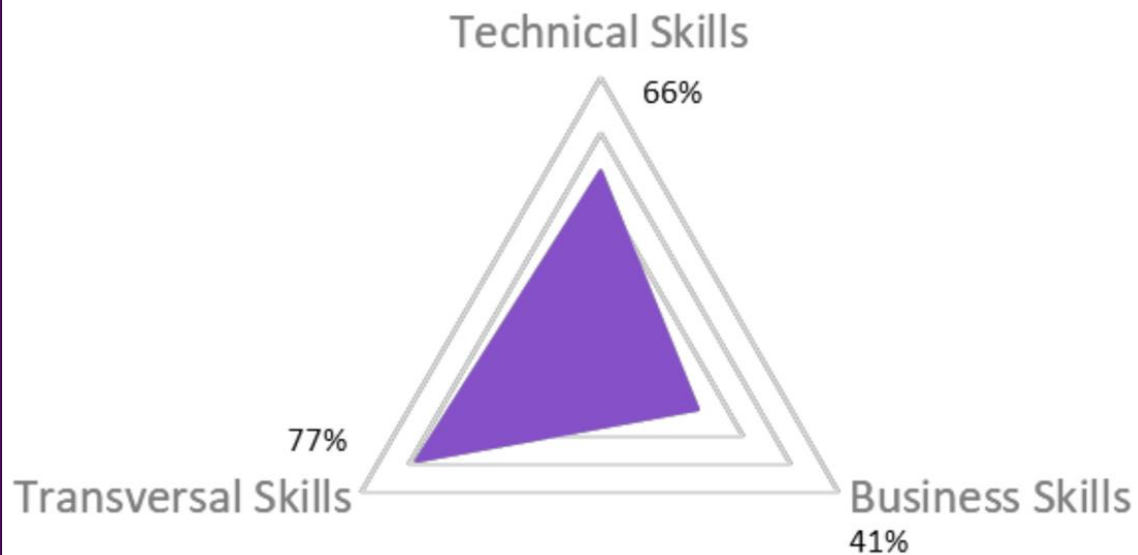
<i>Transversal Skills (M, A, D)</i>			
<i>Technical Basics (D, A, M)</i>		<i>Business Basics (M, A, D)</i>	
<i>Technical Blockchain Specialisation (D, A)</i>		<i>Business Blockchain Specialisation (M)</i>	
<i>BC Conception & Use Case Development (A)</i>	<i>BC Engineering & Development (D)</i>	<i>Strategic Business Management (A, M)</i>	<i>Operational Business Management (D, M)</i>

Educational Modules for **BC Architect (A)**, BC Developer (D) and BC Manager (M)



Transversal Skills (M, A, D)

Skill Index of the BC Architect



- All Technical & Blockchain Specific skills
 - A specific - on the conception and design
- Business Needs Analysis, Product Management, Product Development and Business / Use Case Development
- All Transversal skills are important for the BC Architect

Educational Modules for **BC Architect (A)**, BC Developer (D) and BC Manager (M)



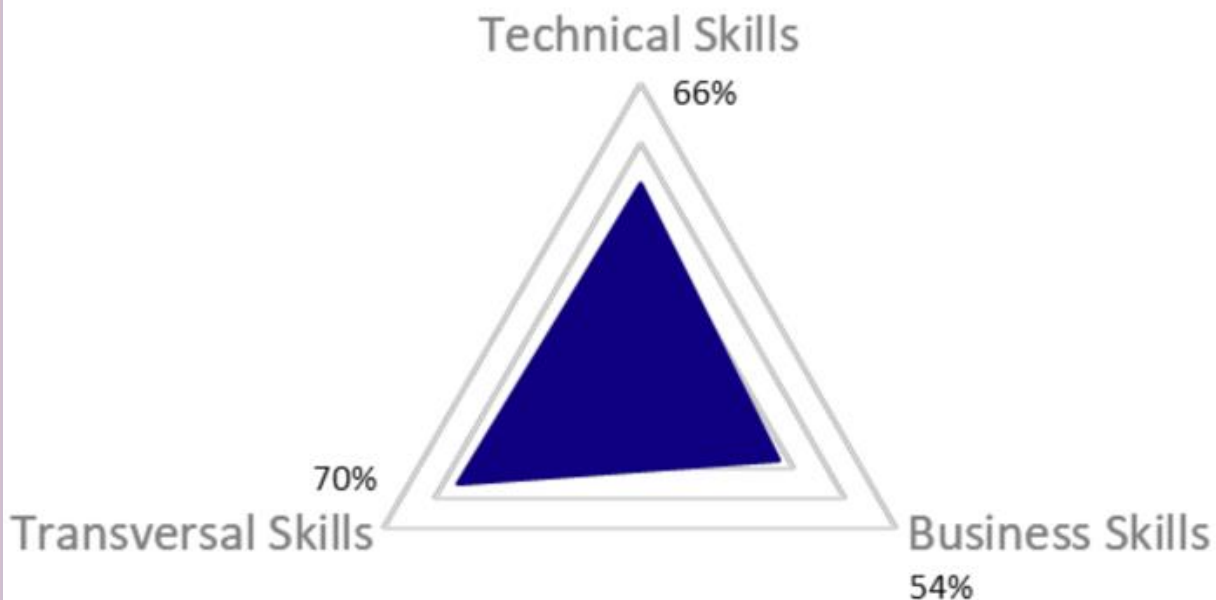
<i>Transversal Skills (M, A, D)</i>			
1. Introduction to Blockchain Technology 2. Regulation, Legal Aspects and Governance of Blockchain Systems			
<i>Technical Basics (D, A, M)</i>		<i>Business Basics (M, A, D)</i>	
3. Fundamentals of Blockchain and Distributed Ledger Technologies		4. Blockchain Business Management and Planning	
<i>Technical Blockchain Specialisation (D, A)</i>		<i>Business Blockchain Specialisation (M)</i>	
5. Blockchain Security and Digital Identity 6. Blockchain System Architecture & Consensus Protocols			
<i>BC Conception & Use Case Development (A)</i>	<i>BC Engineering & Development (D)</i>	<i>Strategic Business Management (A, M)</i>	<i>Operational Business Management (D, M)</i>
9. Applied Cryptography		11. Developing use cases: From ideas to services	

Educational Modules for BC Architect (A), **BC Developer (D)** and BC Manager (M)



Transversal Skills (M, A, D)

Skill Index of the BC Developer



- General software development skills
 - Emphasis on the development skills
- The important Business skills are operational business skills.
- All transversal skills should be included

Educational Modules for BC Architect (A), **BC Developer (D)** and BC Manager (M)

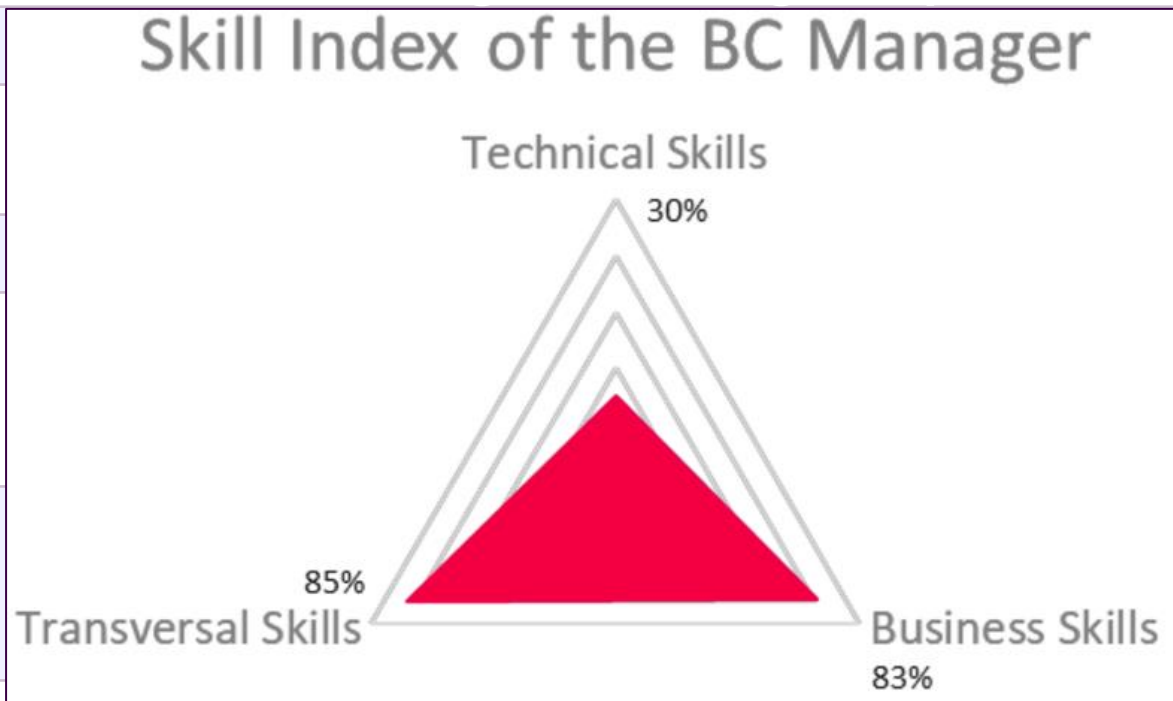


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	10. Smart Contracts and Digital Currency Programming		12. Game Theory in Blockchain

Educational Modules for BC Architect (A), BC Developer (D) and **BC Manager (M)**



Transversal Skills (M, A, D)



- Overview of the functional and technical background of Blockchain technology and its applications
- The Blockchain Manager needs an economic and business-oriented education (Business skills)
- All Transversal Future skills should be included

Educational Modules for BC Architect (A), BC Developer (D) and **BC Manager (M)**



Transversal Skills (M, A, D)

1. Introduction to Blockchain Technology

2. Regulation, Legal Aspects and Governance of Blockchain Systems

Technical Basics (D, A, M)

Business Basics (M, A, D)

3. Fundamentals of Blockchain and Distributed Ledger Technologies

4. Blockchain Business Management and Planning

Technical Blockchain Specialisation (D, A)

Business Blockchain Specialisation (M)

7. Blockchain Platforms
8. Marketing and Customer Support

BC Conception & Use Case Development (A)

BC Engineering & Development (D)

Strategic Business Management (A, M)

Operational Business Management (D, M)

11. Developing use cases: From ideas to services

12. Game Theory in Blockchain

Educational Modules for BC Architect (A), BC Developer (D) and BC Manager (M)



Transversal Skills (M, A, D)

1. Introduction to Blockchain Technology

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Technical Basics (D, A, M)

Business Basics (M, A, D)

3. Fundamentals of Blockchain and Distributed Ledger Technologies

4. Blockchain Business Management and Planning

Technical Blockchain Specialisation (D, A)

Business Blockchain Specialisation (M)

5. Blockchain Security and Digital Identity
6. Blockchain System Architecture & Consensus Protocols

7. Blockchain Platforms
8. Marketing and Customer Support

BC Conception & Use Case Development (A)

BC Engineering & Development (D)

Strategic Business Management (A, M)

Operational Business Management (D, M)

9. Applied Cryptography

10. Smart Contracts Programming

11. Developing use cases: From ideas to services

12. Game Theory in Blockchain

MODULE

1. TITLE OF THE MODULE

Lecture X.1: Title

- + Video.
- + Practical exercise.
- + Case Study.

Lecture X.2: Title

- + Video.
- + Practical exercise.
- + Case Study.

Lecture X.3: Title

- + Video.
- + Practical exercise.
- + Case Study.

Lecture X.4: Title

- + Video.
- + Practical exercise.
- + Case Study.

LECTURE CONTENT:

- 20-30 slides.
- 5-6 pages of lecture notes.
- 1 lecture video (60- 90 minutes length).
- 1 case study.
- 5 questions / answers.
- 1 practice exercise.
- 10 multiple choice questions.

Educational Modules for BC Architect (A), BC Developer (D) and BC Manager (M)



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TOTAL:

5 semesters

Teaching hours 1200

Practive hours: 900

150 ECVET

Use Case Automotive: MOBI



Citopia ECOSYSTEM

- Platform marketplace
- Utility stable token
- MOBI community

A tokenized ecosystem where mobility asset owners can manage & charge for use of curbs, road use & wear, EV charging, insurance, green zone, congestion, carbon, pollution, etc.

dAPPs - for usage based consumption of assets



CITOPIA
Trusted Trip
+ Payment

DECENTRALIZED PLATFORM to ensure data privacy (top concern for users and providers), services visibility, interoperability, and connected seamless mobility



MOBILITY ASSET OWNERS

Source:
MOBI White Paper 2021

Strategy Proposal to CHAISE Board



- Collaborate on integrating BC Skills in Automotive Qualification
- Collaborate on certification and badge delivery
- Collaborate on lobbying on a European level
- etc.

Conclusion and Outlook



- CHAISE is the key initiative on Blockchain/DLT Skill Development in Europe
- EuroSPI members can get actively involved, and are invited to free pilot trainings
- BC/DLT's will have a considerable impact on the EuroSPI community
- Collaboration between ASA and CHAISE will be very beneficial
- BC/DLT's will lead to the "internet of values", probably the biggest transformation of internet ever since its existence
- The global mobility ecosystem will be leveraged by BC/DLT's



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