



# Learning analytics & blockchain

Decentralised Qualifications' Verification and Management for  
Learner Empowerment, Education Reengineering and Public Sector  
Transformation

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@Lambo



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## About me

**Lambert Heller**

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<https://tib.eu/Lambo>

<https://qualichain-project.eu/>

# EU H2020 Research and Innovation



A Research and Innovation Action  
under DT-TRANSFORMATIONS-02-2018



Contract no.:  
822404



Duration: 36 months  
(Jan. 2019 - Dec. 2021)



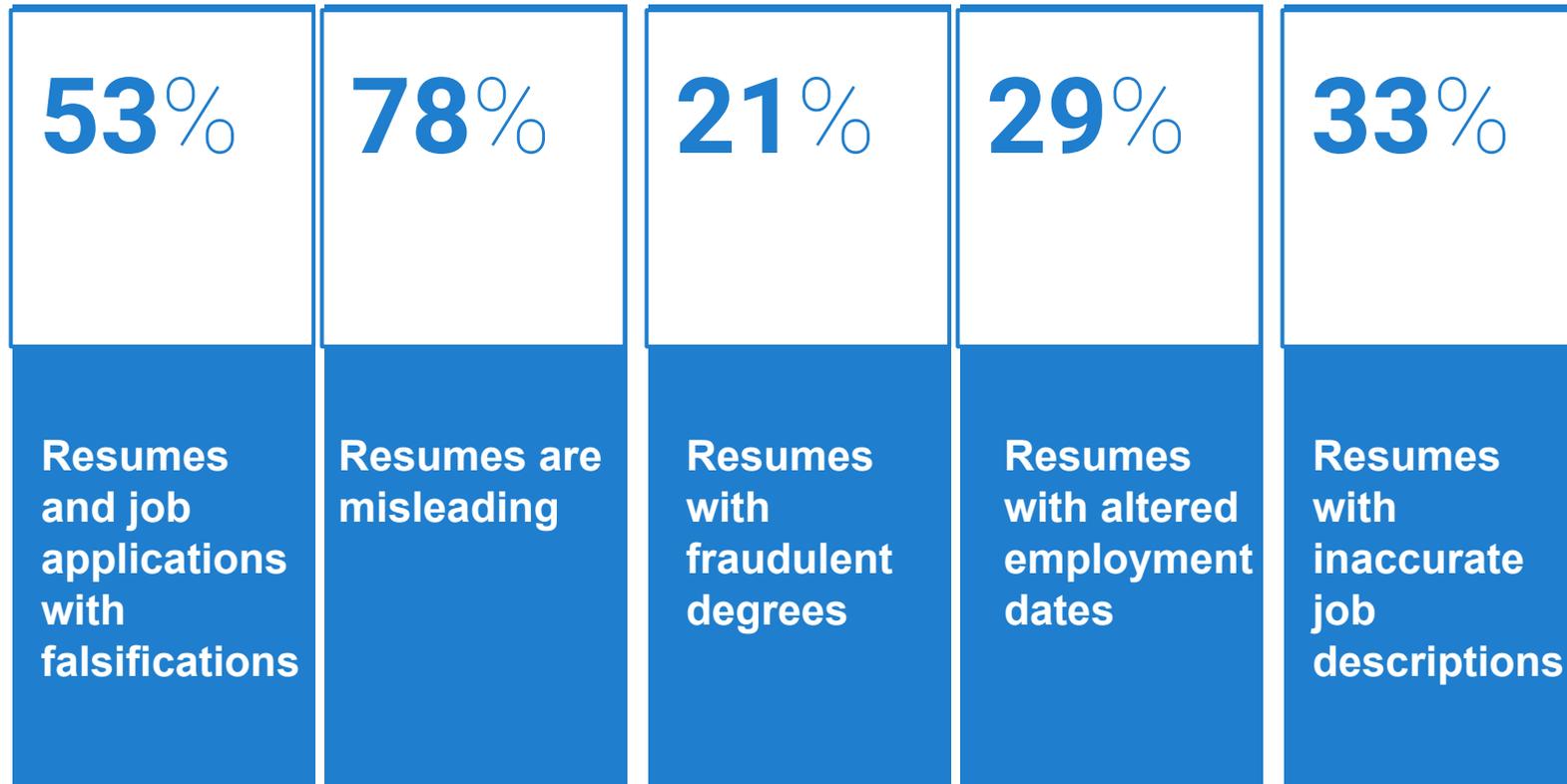
Total Budget:  
€ 3.993.571,25



Project Coordinator:  
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# Motivation



**According** to a survey by **CareerBuilder.com** (one of the largest online job finder sites)

“Fifty-eight Percent of Employers Have Caught a Lie on a Resume, According to a New CareerBuilder Survey”, August 7, 2014, <https://www.careerbuilder.com/share/aboutus/pressreleasesdetail.aspx?sd=8%2F7%2F2014&id=pr837&ed=12%2F31%2F2014>

# QualiChain Vision



Transform the domains of **education** and **labor market** by changing physical archives of **educational credentials**:

- Develop a decentralized framework for permanent and unchangeable storage of academic credentials and professional qualifications.
- Exploit the features of blockchain, semantic technologies, and data analytics for validation, privacy and data sovereignty
- Integrate automated unstructured and structured data into the QualiChain framework

# QualiChain Stakeholders



Individuals as learners



Individuals as  
employment seekers



Educational/training  
institutions



Public sector and public  
authorities

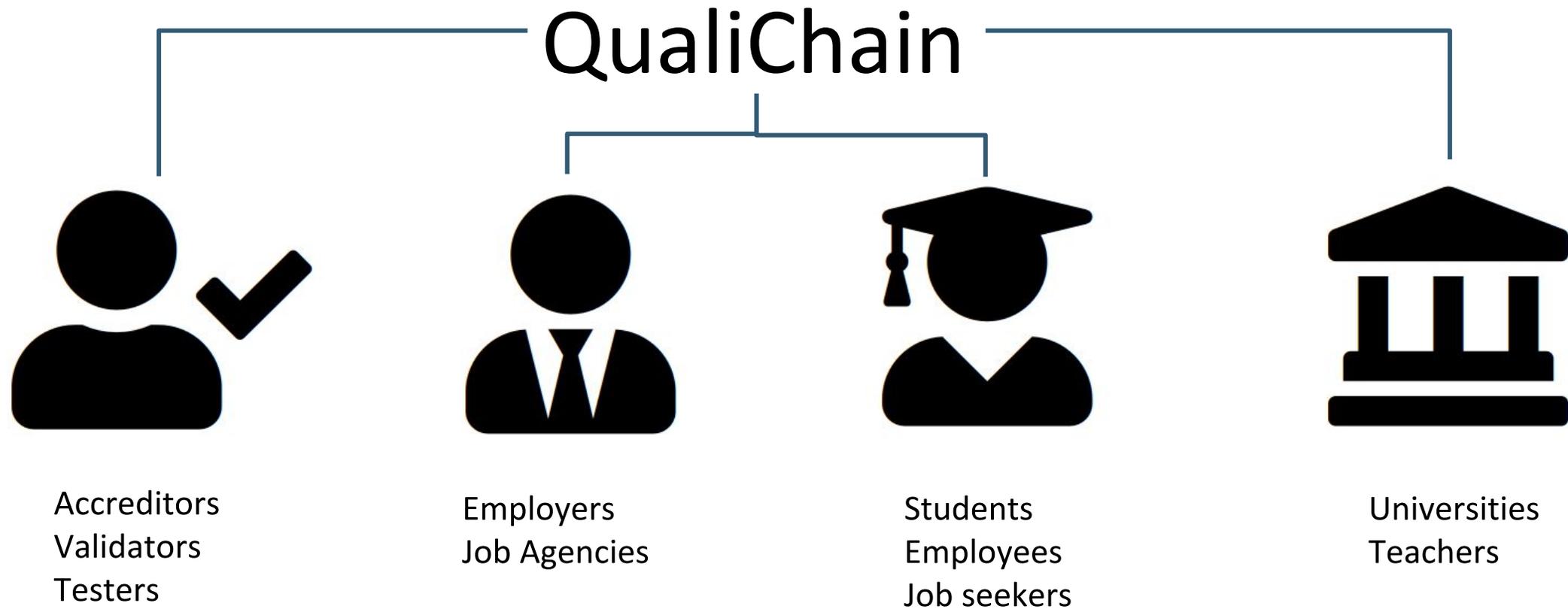


Private sector  
organisations/  
Companies



Society at Large

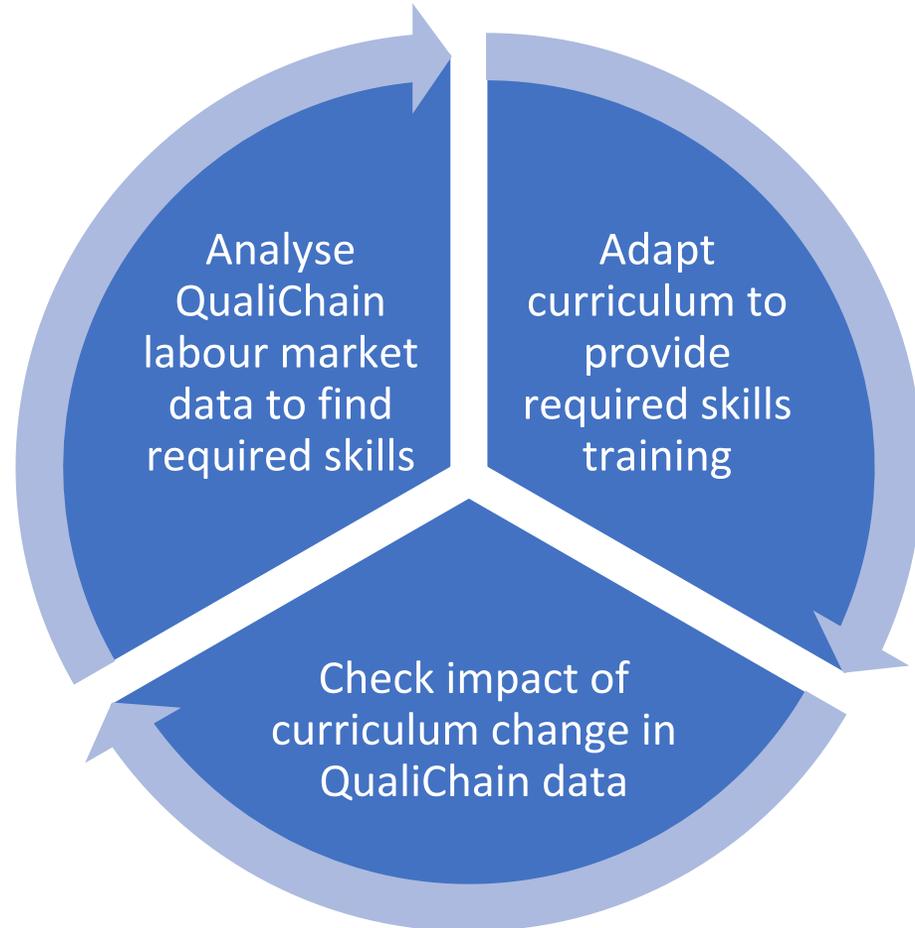
# QualiChain Overview



# QualiChain Pilots



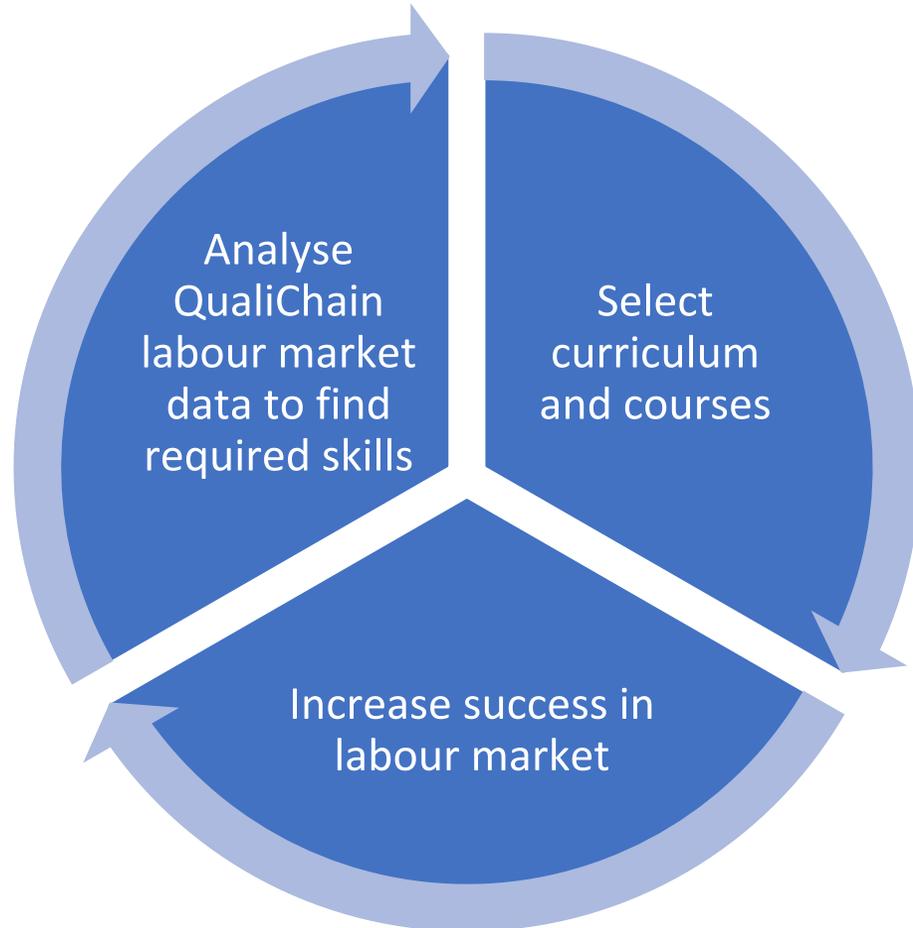
# Smart Curriculum Design



## National Technical University of Athens Pilot

- Harvest **big data** from **job offers** and **students credentials** stored and **accessible** via **QualiChain**
- **Find skills** that are **in demand** but neglected in curriculum
- **Adapt curriculum** / university courses
- **Check impact** of changes

# ... Towards Smart Student

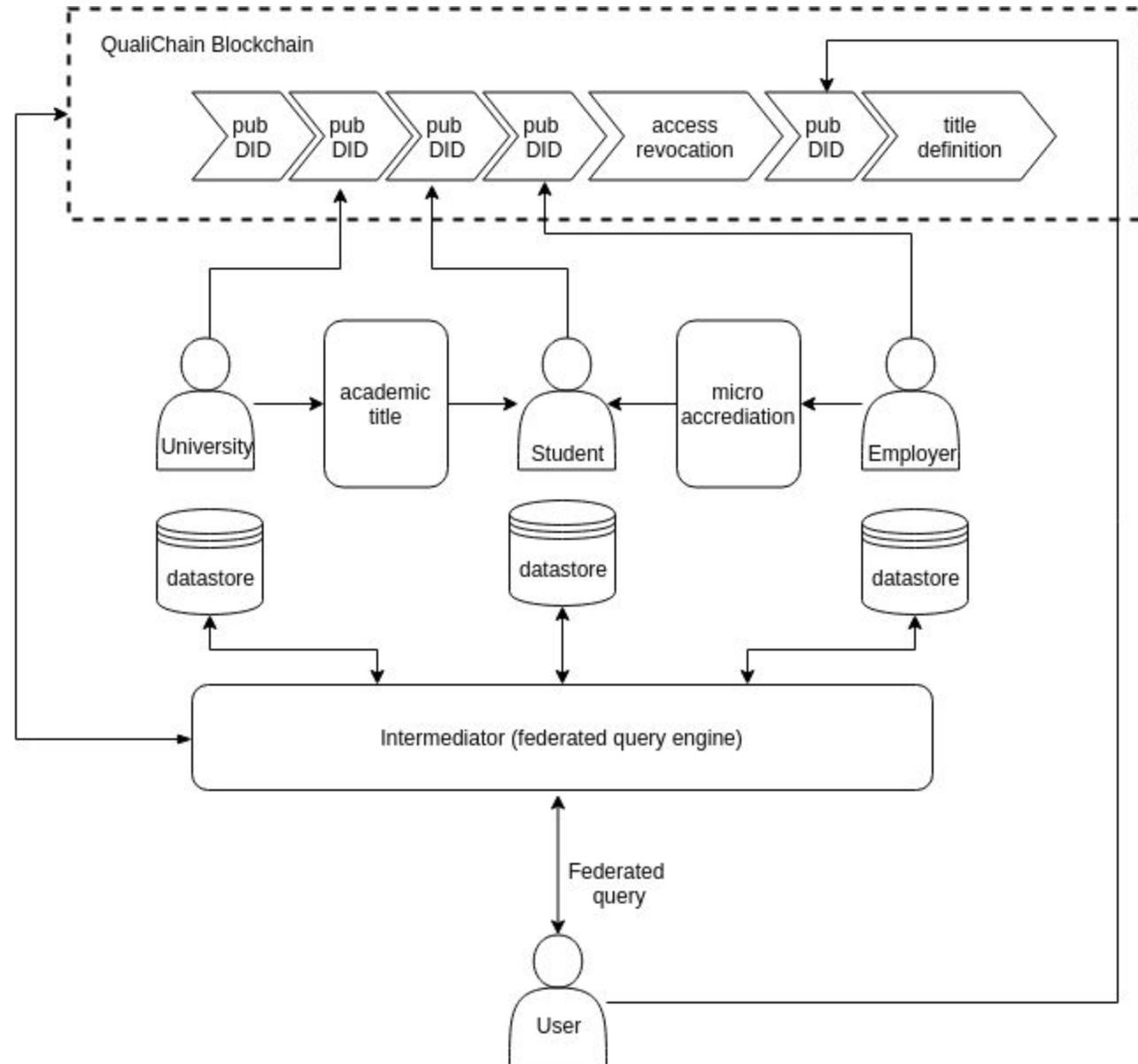


- Students and professionals can use the same technique to select curriculum / courses
- 3rd party advising solutions can be developed that rely on QualiChain Big Data
- Can also be used by government agencies to monitor job market requirements

# Open Badges



- <https://openbadges.org/>
- developed 2011 at Mozilla
- funded by McArthur Fdtn
- 2017 hand over to IMS Global Learning Consortium
- used by IBM
- <https://www.ibm.com/training/badges/>
- Linked data
- JSON-LD context (v2.0)
- can include images
- validation online or inline





**...please ask & discuss!**



## TIB - Leibniz Information Centre For Science And Technology University Library

Prof. Dr. Maria-Esther Vidal (Scientific Data Management)  
Lambert Heller (Open Science Lab)  
Dr. Ingo R. Keck (Scientific Data Management)



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