QualiChain Project Overview

Maria-Esther Vidal
Scientific Data Management Group TIB

QualiChain and TIB

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
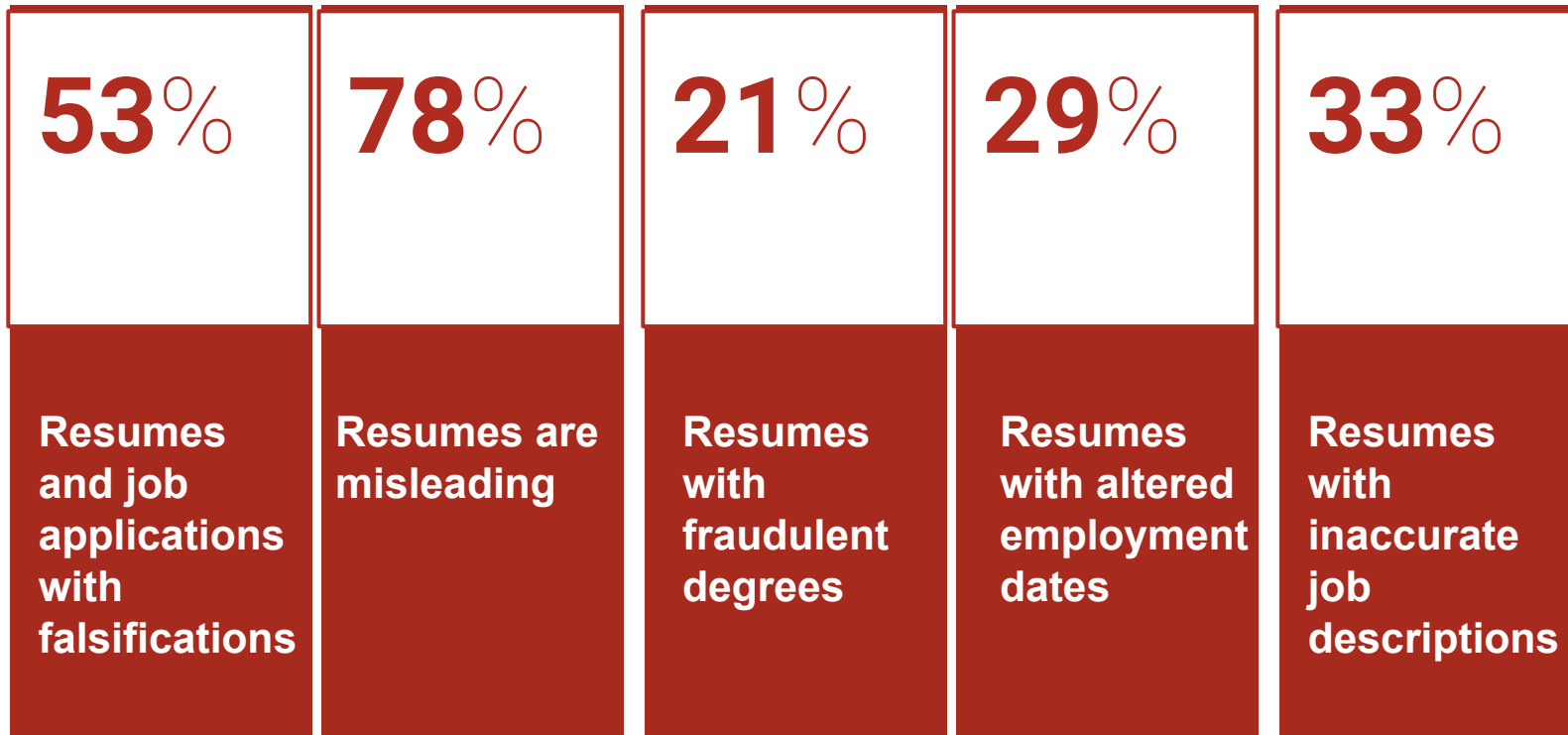
Project Coordinator:
John Psarras
john@epu.ntua.gr

01   **TIB budget: 53 PMs, 493.750 €**

02   **Leading WP for evaluating the impact of the QualiChain Framework**

03   **Leading the development of the distributed engine of QualiChain**

Motivation

According to survey by **CareerBuilder**
one of the largest online job finder site

| **53**%	**78**%	**21**%	**29**%	**33**%
Resumes and job applications with falsifications	**Resumes are misleading**	**Resumes with fraudulent degrees**	**Resumes with altered employment dates**	**Resumes with inaccurate job descriptions**

"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 **academic credentials**

QualiChain Objectives:

- 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
- Integrate automated **unstructured** and **structured** data into the **QualiChain framework**
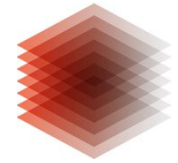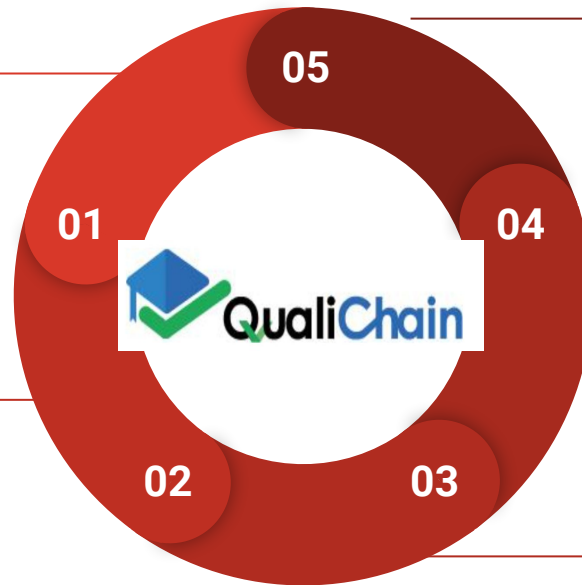
Key Challenges

Award and **Validate** Academic Certifications.

Detect **frauds** in educational **awards** and employment **qualifications**

Reduce vulnerability of paper-based certificates

Enhance productivity in competency management

Reduce cost of recruitment **processes**

01
02
03
04
05

QualiChain

QualiChain Pilots

Cross-University Degree Equivalence Verification

Smart Curriculum Design

Staffing the Public Sector

Provision of HR Consulting & Competency Management Services

Societal Impact

Individuals as learners

Public sector and public authorities

Individuals as employment seekers

Private sector organisations/ Companies
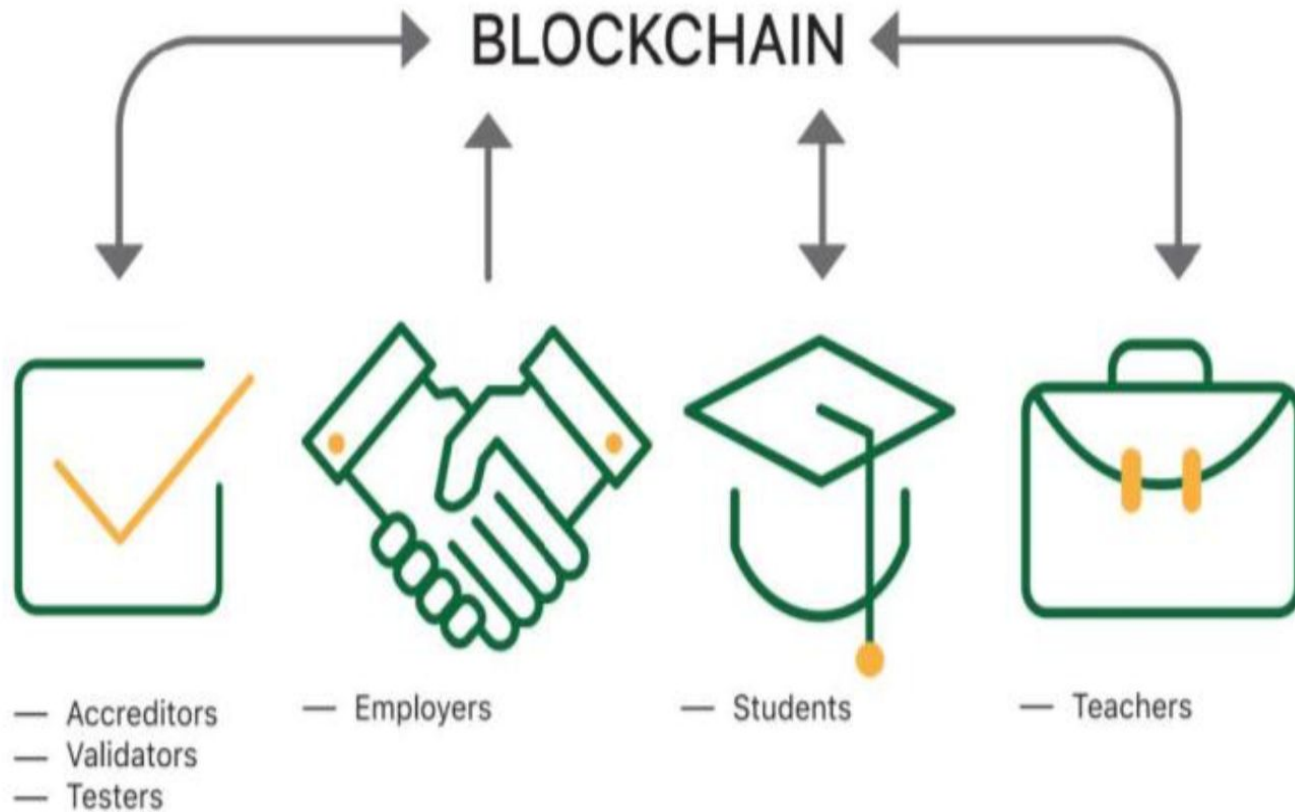
Educational/training institutions

Society at Large

TIB leads the team that evaluates the impact of QualiChain

QualiChain Technologies

BLOCKCHAIN

— Accreditors
— Validators
— Testers

— Employers

— Students

— Teachers

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Semantic Web

RDF
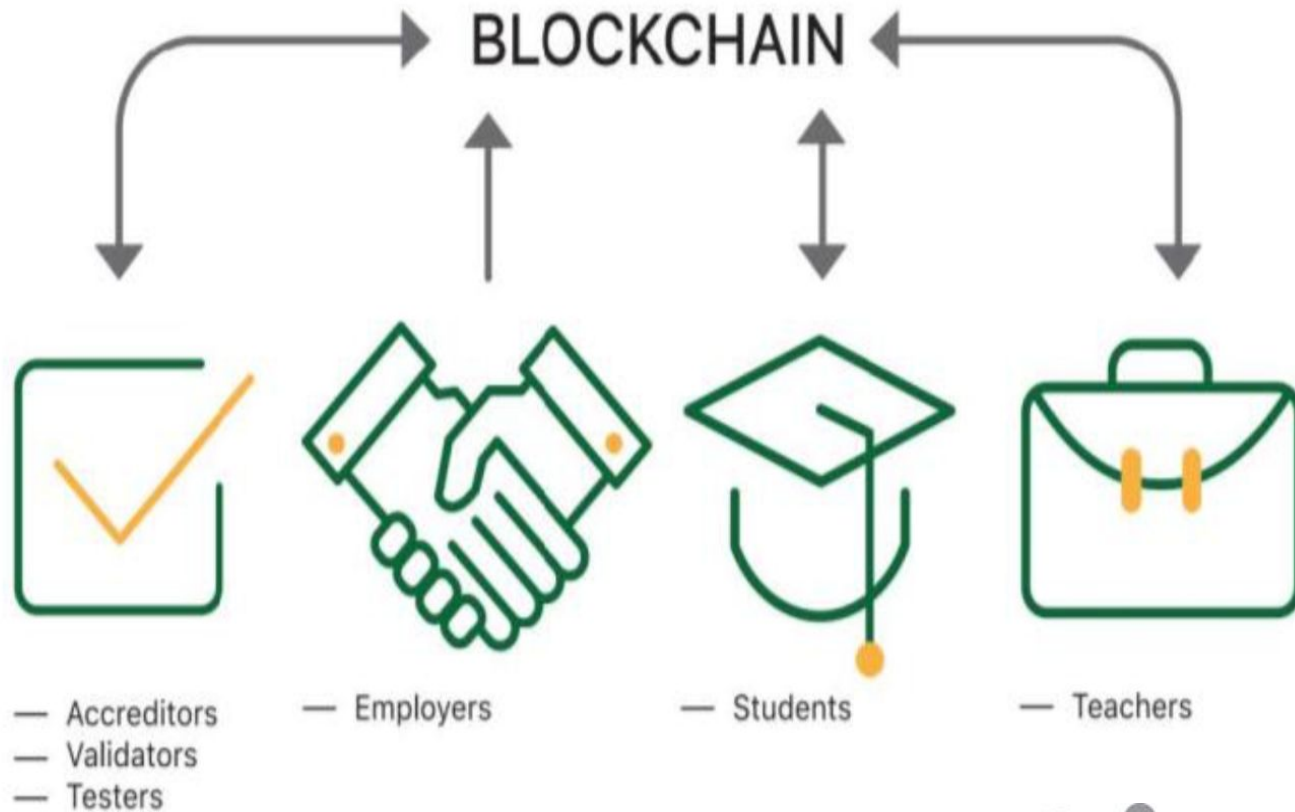
The QualiChain Ecosystem

The QualiChain Infrastructure

TIB leads the team that will develop the QualiChain Query Engine

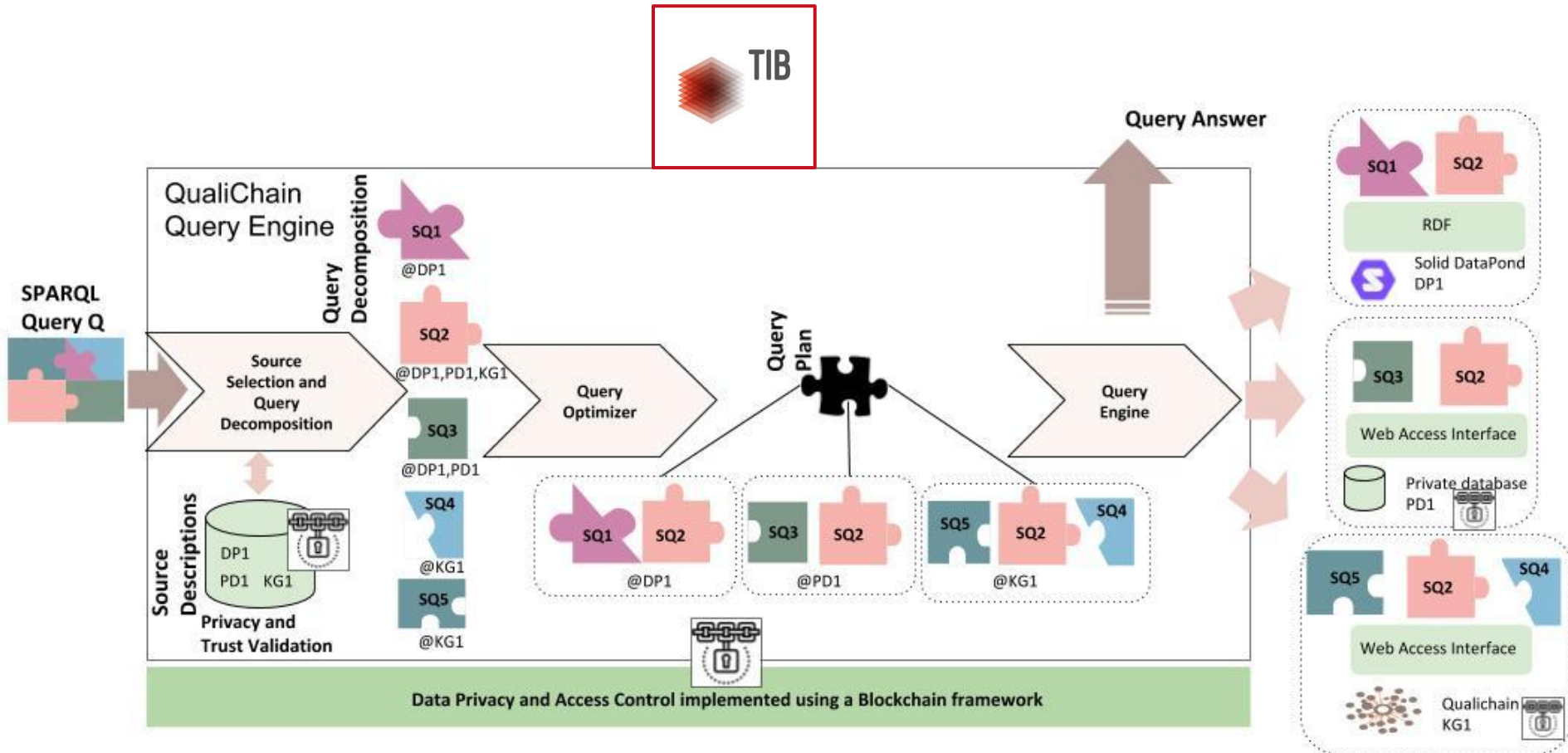# Gaps and Needs in QualiChain

Needs	Research Challenges
Consuming Awards and Qualifications	**Ingesting** structured and unstructured data **Developing** quality-aware data acquisition techniques
Processing Awards and Qualifications	Defining **languages and models** for fine-grained **representation** of certificates Integrating and describing **degrees** and **certificates** Devising **querying techniques to scale up** to large repositories Executing **queries over decentralized** for federated data sources
Validating and **Verifying** Awards and Qualifications	Designing **Equivalence Verification** module between degrees Managing **multi linguality** between certificates
Understanding Awards and Qualifications	Unravelling **hidden patterns** or associations **Creating value** from integrated data for taking actions Providing **scalable visual analytics**
Ensuring Privacy and Authentication	Modeling **privacy-aware access** control Implementing **authentication operations** Enabling **traceability through audits** at different granularities

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TIB Team @ QualiChain

Open Science Group
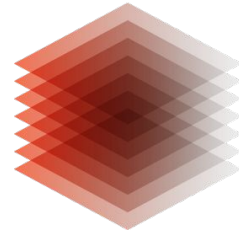
Open Science Group

Scientific Data
Management Group

Scientific Data
Management Group

Lambert Heller

Ingo Keck

Maria-Esther Vidal

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UNIVERSITY LIBRARY

TIB

Thank you!
Questions

Contact

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Association