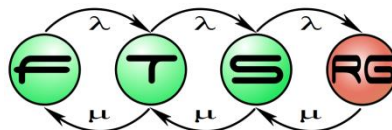# „Smart" collaborations for the food industry

László Gönczy

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Budapest University of Technology and Economics
Department of Measurement and Information Systems
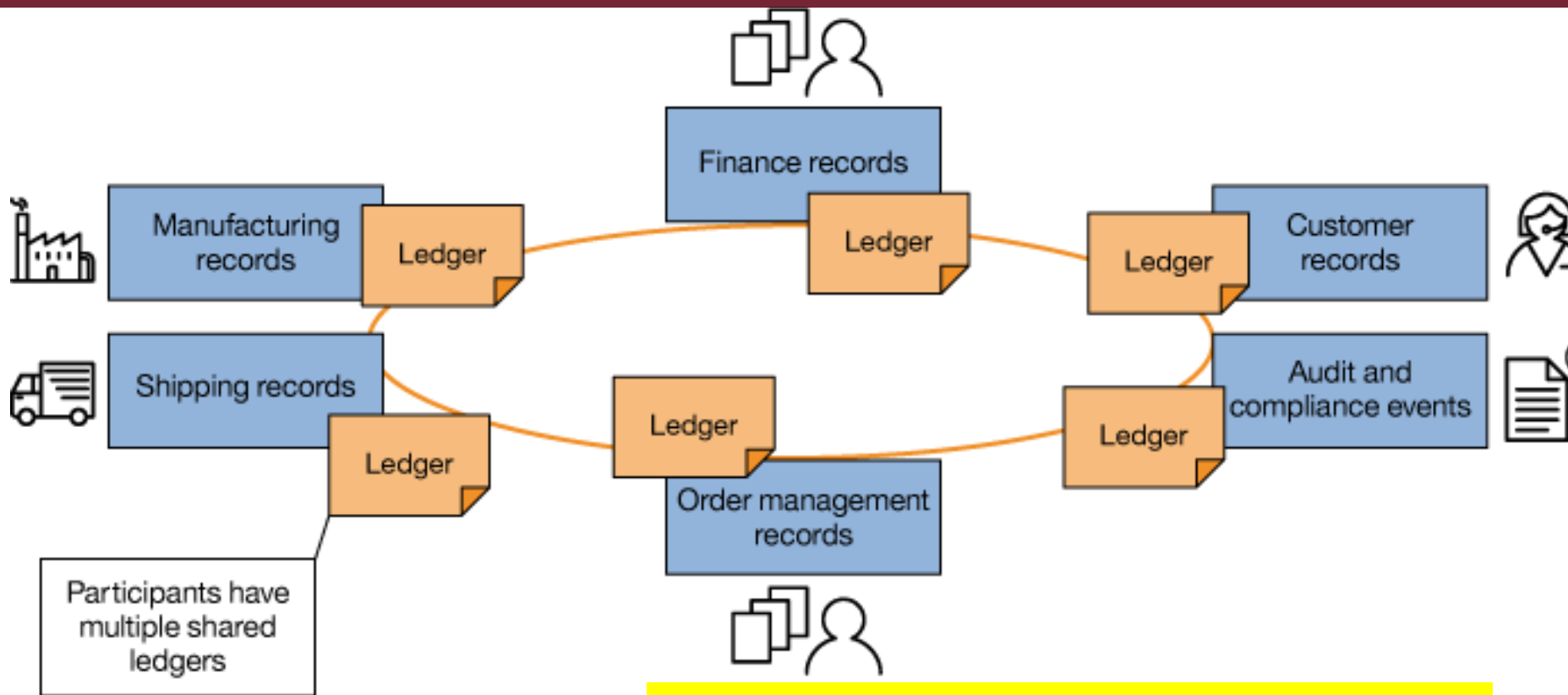**Fault Tolerant Systems Research Group**

About us

Budapest University of Technology and Economics, Hungary

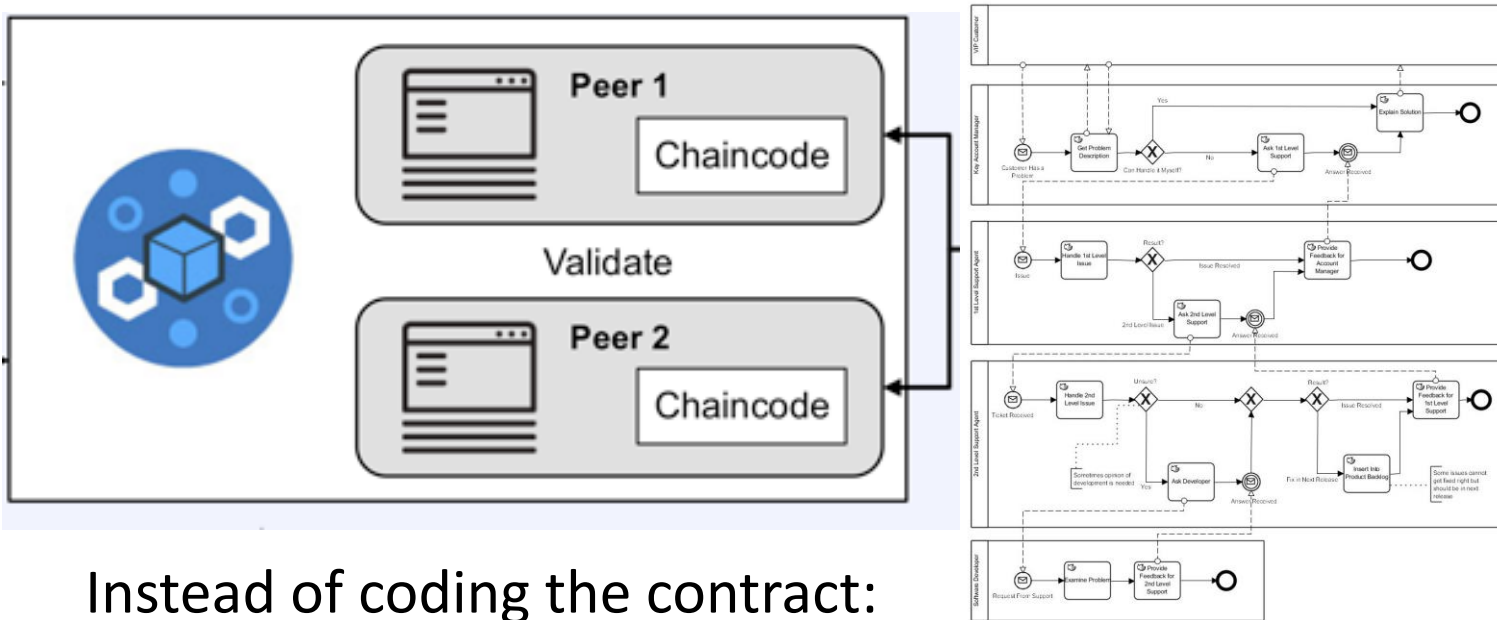Department of Measurement and Information Systems

Fault Tolerant Systems RG

Blockchain: collaboration

Finance records

Manufacturing records — Ledger

Ledger

Ledger — Customer records

Shipping records — Ledger

Ledger

Ledger — Audit and compliance events

Order management records

Participants have multiple shared ledgers

Distributed
Immutable
Multi-party
Secure
Cooperation and synchronization

Source: IBM DeveloperWorks

Instead of coding the contract:

Data modelling

Policy conformance by process design (BPMN)

Control for business users

Explicit modelling of stakeholders

→Prototype transformations created for private blockchain

Supported by Linux Foundation

- ~~Cryptocurrency~~

- Distributed +trustworthy

- Port your processes to blockchain

- Integrate existing systems

→Business innovation among distributed parties

→Supply Chain Management

→Commodity Exchange

→Marketplace

Anomaly detection in the supply chain

- Data analysis-driven anomaly detection
  - Fraud
  - Falsification of quality data
  - Suspicious transactions
  - Transition effects in manufacturing
- Visual analysis methods
  - Big Data → Small problem size
  - Basis for manufacturing optimization