



TaRDIS

Highly resilient factory shop floor digitalisation

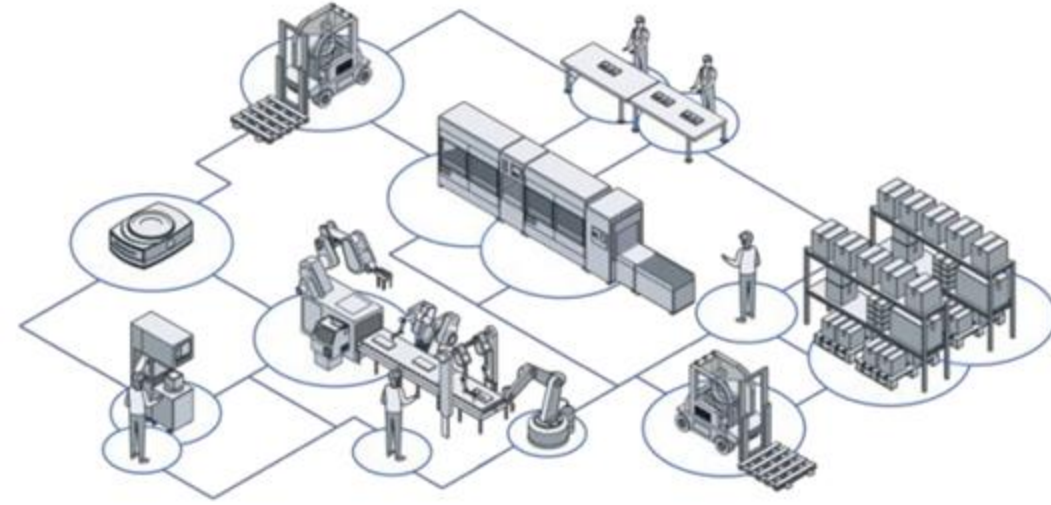
Roland Kuhn (Actyx)

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Actyx before TaRDIS:

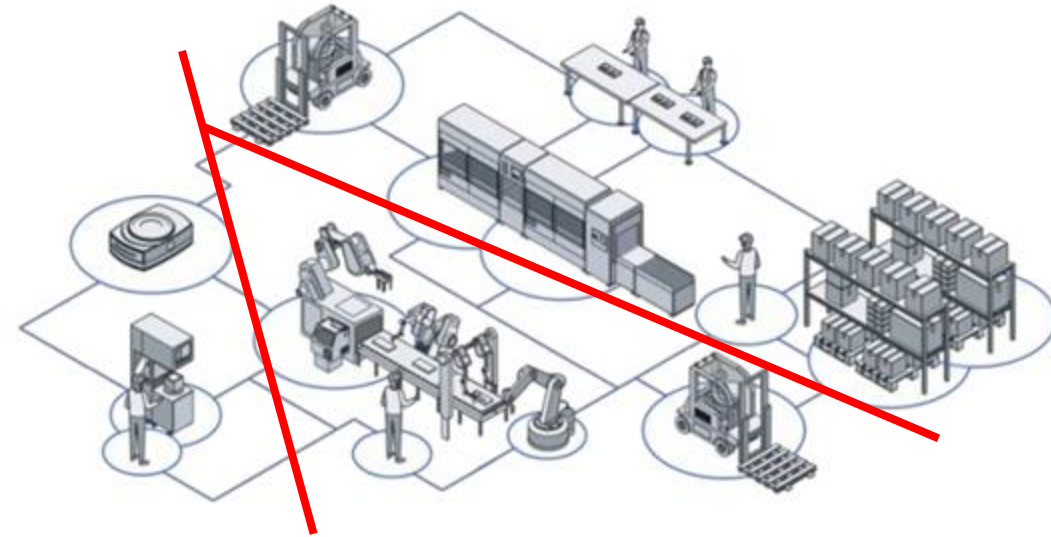
- highly collaborative factories
→ **peer-to-peer IT architecture**





Actyx before TaRDIS:

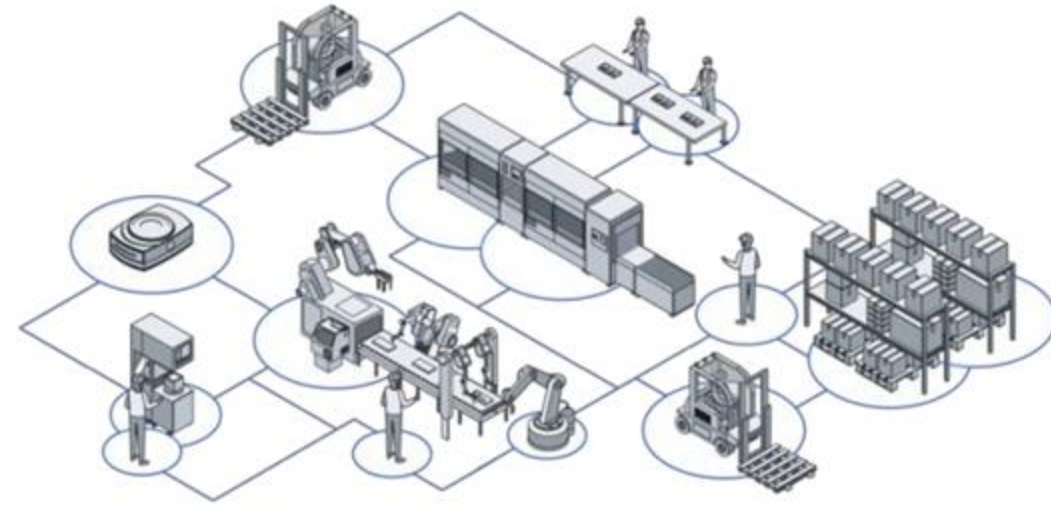
- highly collaborative factories
→ **peer-to-peer IT architecture**
- challenging programming model
due to **frequent network partitions**
- **eventual consensus** by merging event logs





Actyx before TaRDIS:

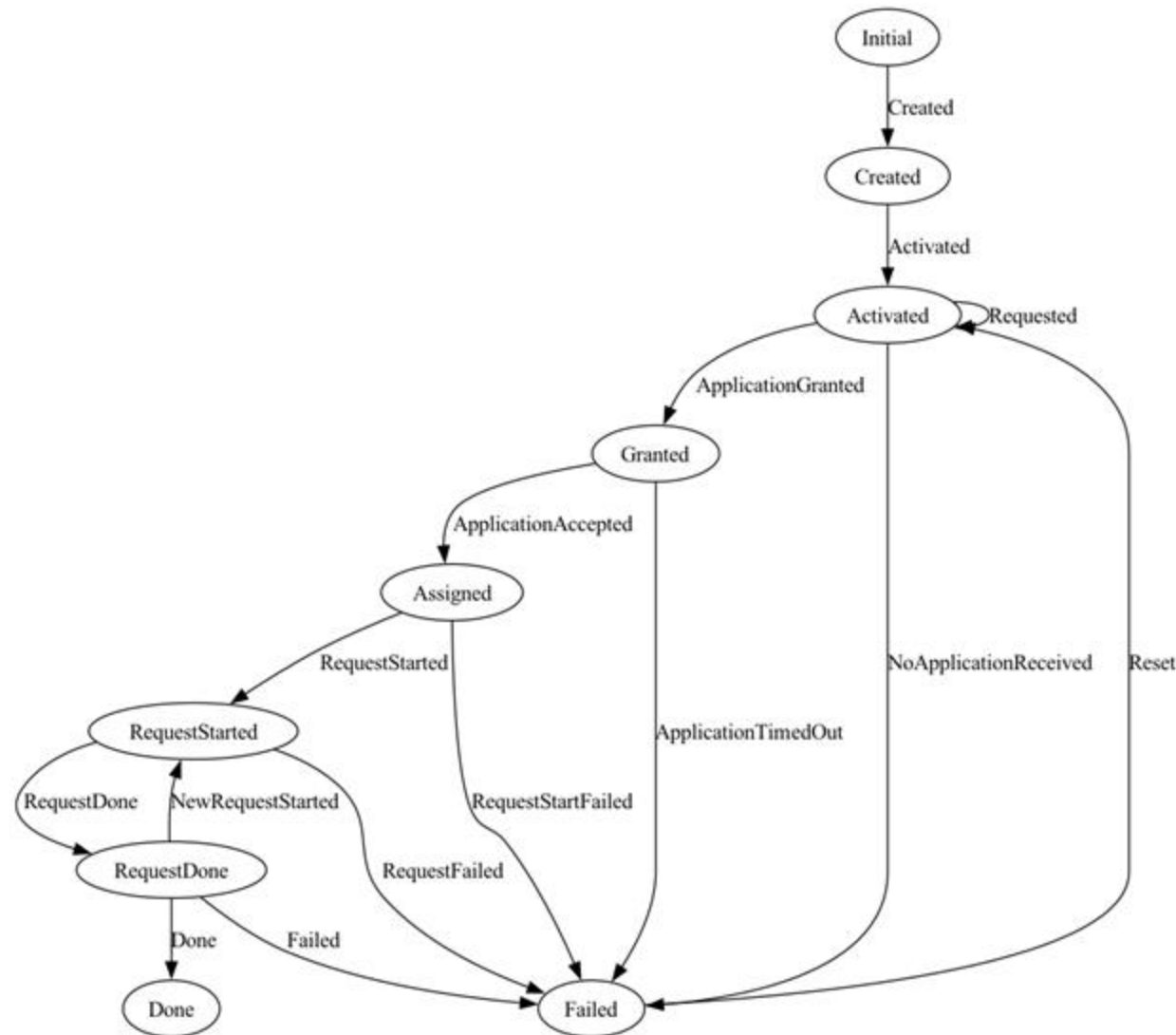
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Actyx after TaRDIS:

- intuitive **design tools** for collaborative P2P systems
- powerful **correctness guarantees** for P2P implementations
- unlocking larger & more complex industrial use cases

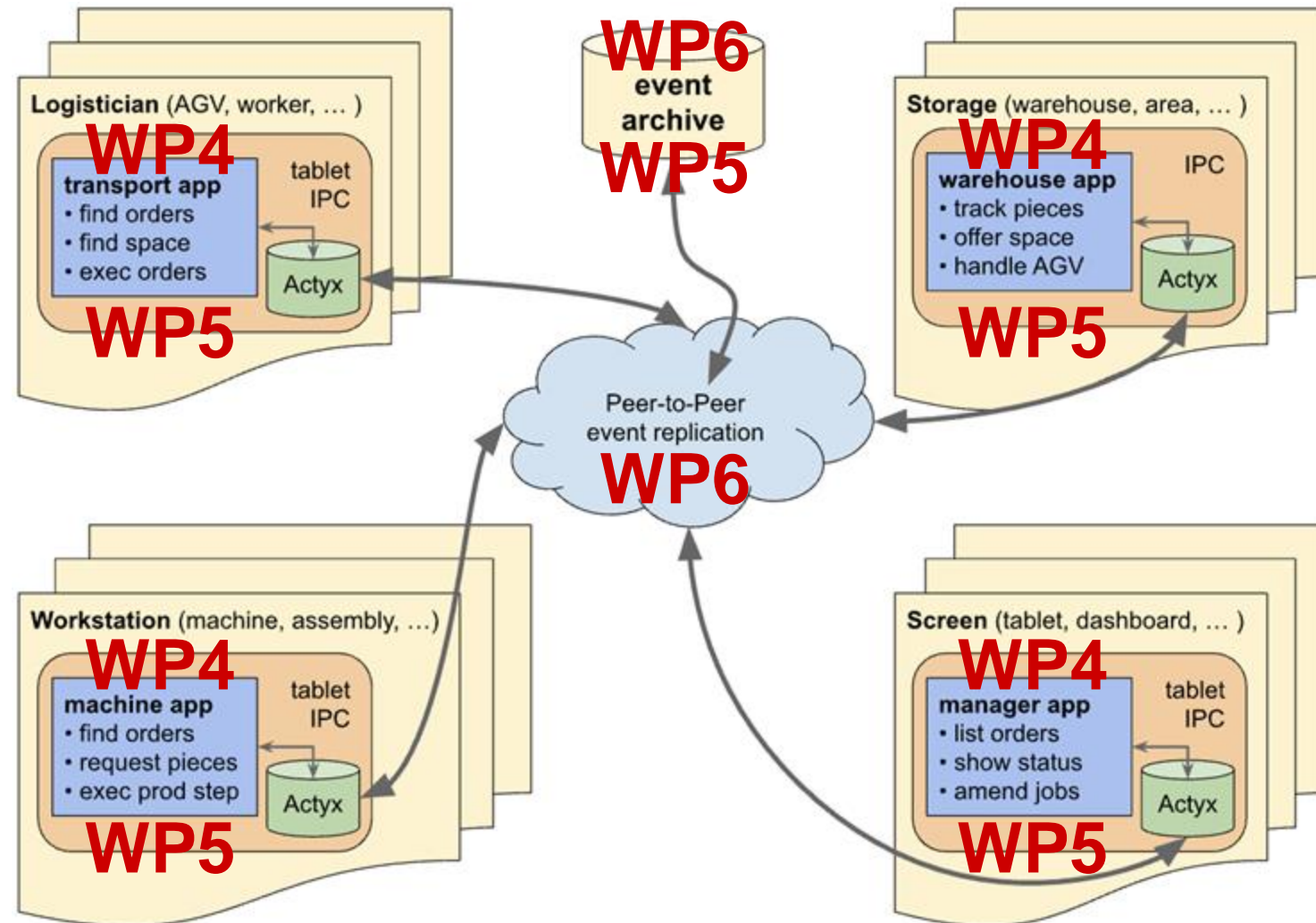
Example Factory Workflow Diagram



Architecture of TaRDIS implementation



- WP3:** workflow design
- WP4:** correct implementation
- WP5:** smarter decisions
- WP6:** smarter data mgmt





TaRDIS



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THANKS



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- graphical workflow design to involve production experts
- more precision in specification (e.g. for specific participants), also capturing manual interventions in proper protocols
- guarantees around compensating actions in case of history invalidation (i.e. after event log reconciliation)
- smarter data management and decision making
⇒ pattern recognition
- scalability to larger swarm sizes
- composing workflows to form larger workflows while keeping eventual consensus and compensation guarantees