Trustworthy data is useful data

## Inside the coming wave of digital credentials for people and products

Michael Shea, The Aeolian

ADV Data Excellence Conference

Bridging Data Excellence & Trust

Data excellence requires not just quantity and quality, but trustworthiness

- Data's value multiplies when it's trusted and verifiable

- Organizations face unprecedented verification challenges

- Digital wallets represent a paradigm shift in data exchange

- Austria positioned to lead in trusted data innovation
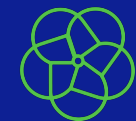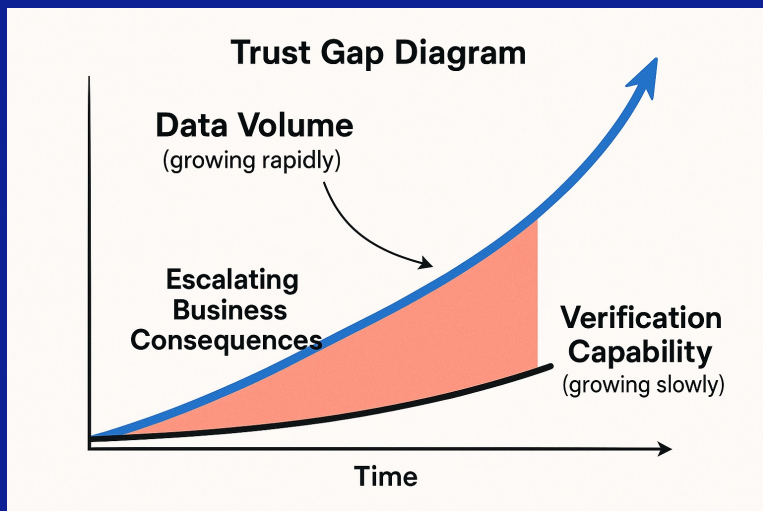
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Verification Friction & Resource Drain

Lack of Trust Creates Massive Inefficiencies

- €3.4 billion annual cost
- 14.2 million hours lost
- 83 separate data silos (avg. business)
- 62% businesses report "verification friction"

Trust Degradation

Compliance Risks

Lost Opportunities

Increased Operational Cost

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When Data Cannot Be Verified

Trust Gap Diagram

Data Volume (growing rapidly)

Escalating Business Consequences

Verification Capability (growing slowly)

Time

Misinformation and unverifiable data create business risk

- ~50%of organizations experienced data integrity issues in 2024
- Avg. cost of bad data decisions: €840K per incident
- Most impacted sectors: energy, transportation, financial services
- AI systems amplify both the benefits of trusted data and risks of untrusted data

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The Foundation of Trust

Verifiable credentials provide cryptographic proof of data claims

- Digital proof replaces document-based trust
- Four key roles: Issuer, Holder, Verifier, Governance
- Cryptographically secure, tamper-evident
- Privacy-preserving by design
- Interoperable across systems and borders
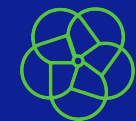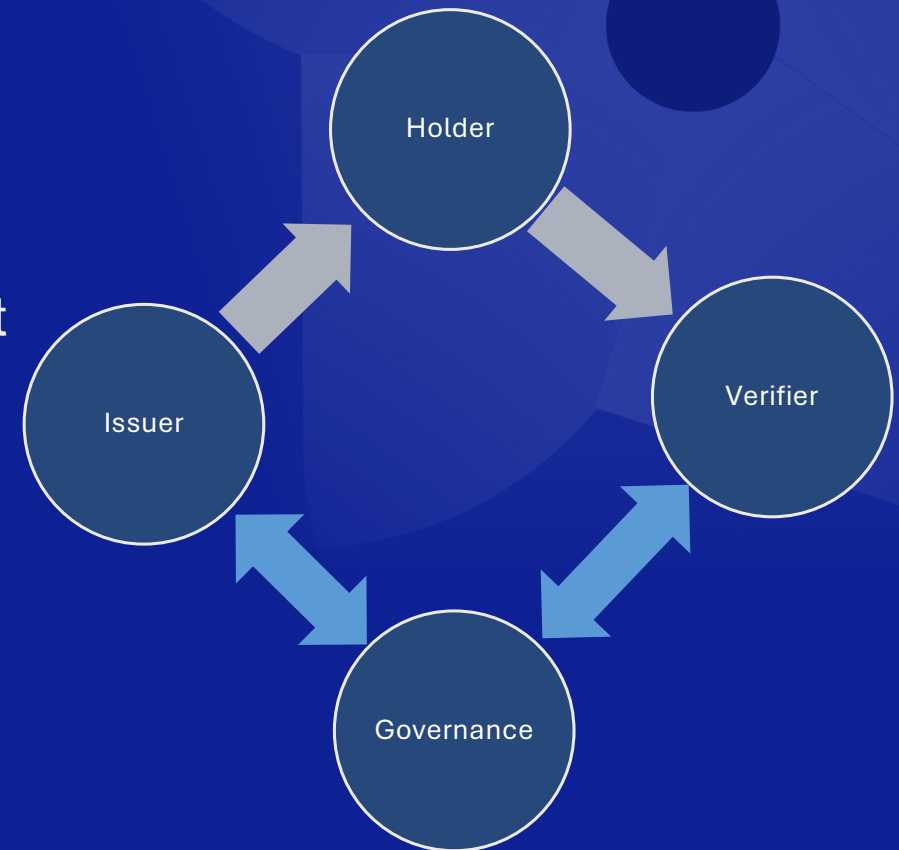
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From Documents to Verifiable Data

Digital wallets transform how organizations exchange trusted information

- Moving from documents to verifiable data
- Selective disclosure: share only what's needed
- User-controlled sharing with audit trails
- Machine-readable while remaining human-understandable
- Standards-based ecosystem (W3C, OASIS, ISO)
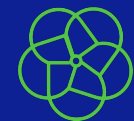
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Verified Data for Sustainable Energy Markets

- Verified decentralized energy resources

- Faster onboarding for energy providers

- More reliable grid management data

- Enables dynamic energy certificates and CO_2 tracking

- Streamlines EU Clean Energy compliance
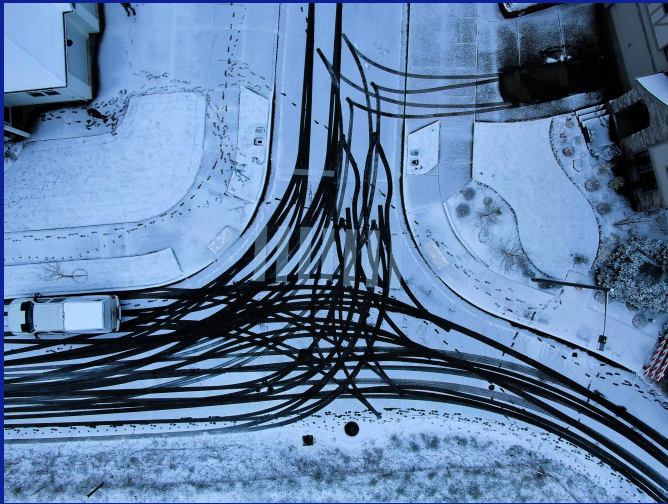

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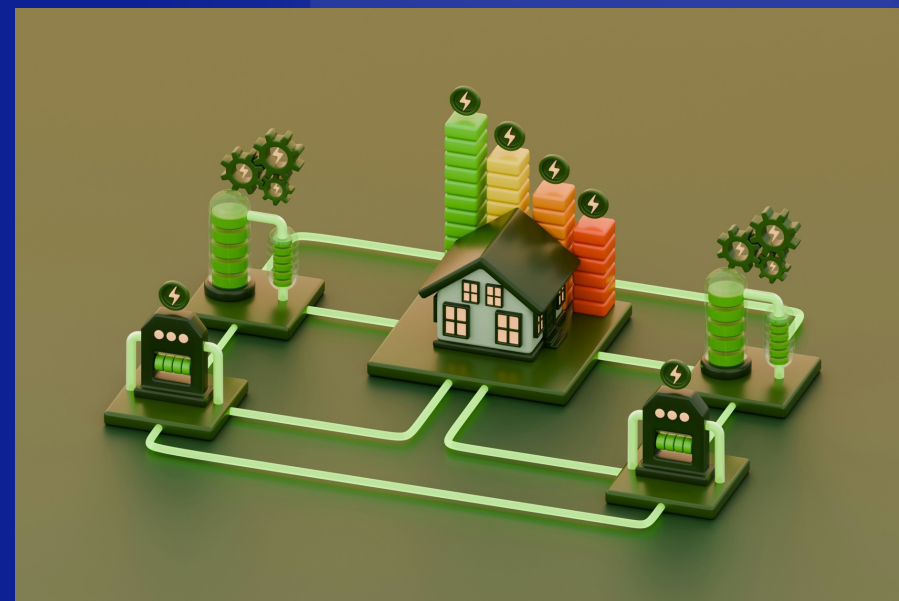
Supply Chain Trust & Efficiency

Photo by Ty Lorenz on Unsplash

Verified cargo, vehicles, and operator credentials

- 50% - 60% Reduction in cross-border documentation checking

- 20% - 25% Faster transit times through streamlined verification

- Reduction in administrative costs

- Digital twin integration for real-time cargo tracking

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Frictionless Compliance & Customer Onboarding

Digital credentials dramatically improve financial services efficiency

- 91% reduction in customer onboarding time

- 84% cost reduction for compliance verification

- 67% decrease in false positives for fraud detection

- Enables portable financial identity across EU

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Implementation Timeline & Business Impact
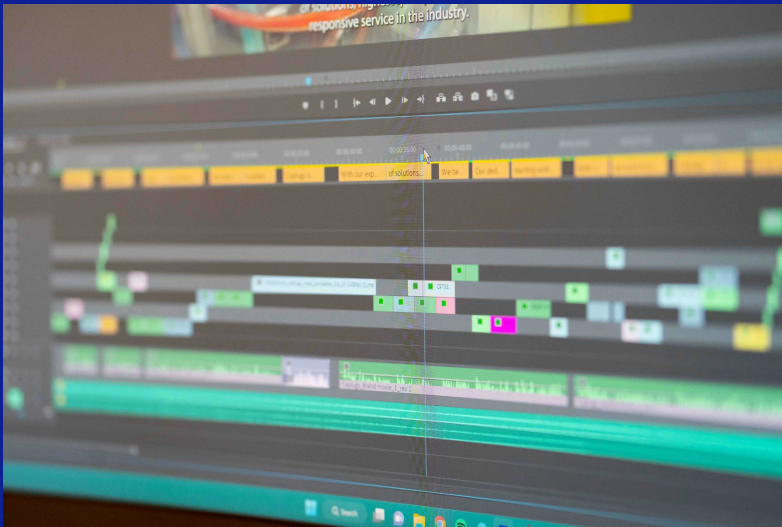

Photo by Bas Peperzak on Unsplash

The EU Digital Identity framework creates both obligation and opportunity

- Regulation adopted June 2024

- Key implementation milestones 2025-2027

- By 2026: EU Member States must offer wallets to citizens

- By 2027: Key sectors must accept EUDI for verification

- 88% of Austrian businesses unprepared for integration

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Strategic Considerations

**EUDI adoption requires both technical and strategic preparation**

- Become a relying party: Accept EUDI for verification
- Become a credential issuer: Issue your own credentials
- Data strategy implications: Format, structure, governance
- Employee wallets: Workforce identity and credential management
- Legacy system integration challenges and approaches

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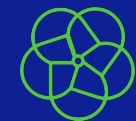
Circular Economy & Supply Chain Transparency

Digital Product Passports transform product data management and compliance

- DPP regulations launching 2025-2026
- Initially targeting: batteries, electronics, textiles, construction
- Requires cradle-to-grave product data transparency
- Creates €6.7B new market for Austrian material recovery
- 72% of Austrian manufacturers need DPP readiness by 2026
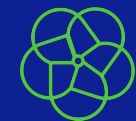
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DPP IMPLEMENTATION CHALLENGES

DPP readiness requires coordinated action across organizations

- Supply chain mapping and data collection complexity
- Legacy systems lack required data granularity
- Cross-border challenges with non-EU suppliers
- Requires integration of physical (IoT) and digital systems
- First-mover advantage in circular business models

Digital Credential Readiness Assessment

Dimension	Beginning	Developing	Advanced
Current credential processes	Paper-based, manual verification	Digital documents, partial automation	Standardized, partially integrated
Technical readiness	Legacy systems with limited APIs	Mixed environment with some modern systems	API-enabled platforms
Policy/governance framework	Undefined for digital credentials	Partial digital governance	Comprehensive digital framework
User experience	Document-centric processes	Mixed physical and digital	Digital-first experience
Ecosystem engagement	Independent operations	Selected partner collaboration	Industry consortium participation

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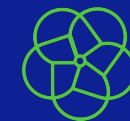
Organizational Maturity Model

A staged approach to digital wallet and credential readiness

- Stage 1: Assessment & Awareness (3-6 months)
- Stage 2: Strategy & Governance (6-9 months)
- Stage 3: Pilot Implementation (9-12 months)
- Stage 4: Operational Integration (12-18 months)
- Stage 5: Ecosystem Leadership (18+ months)

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From Strategy to Action

Success requires balancing technical, organizational, and ecosystem considerations

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Technical	Standards, architecture, security
Organizational	Governance, skills, processes
Ecosystem	Partners, integrations, industry initiatives
Critical success factors	Executive sponsorship, cross-functional teams, staged implementation
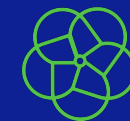
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Digital Credentials: The Cornerstone of Data Excellence

Building organizational capabilities is essential for succeeding in the trusted data ecosystem.

- Credential opportunities
- Strategic roadmaps
- Regulatory navigation
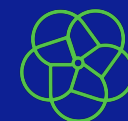- Governance structures
- Ecosystem design
- Phased adoption
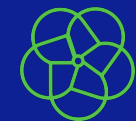
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Thank you.

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