Showcase Program „Secure Digital Identities“

Organizational Digital Identities –

Cost saving estimation for the Use Case „Know your Supplier” based on automated master data management with EUDI wallets for legal entities

Berlin, December 2024

ESMT European School of Management and Technology GmbH
Schlossplatz 1
10178 Berlin

1 Introduction to the Showcase Program Secure Digital Identities

The German Federal Ministry for Economic Affairs and Climate Action (BMWK) is the initiator and funder of the "Secure Digital Identities" Showcase Program. Over the course of four years (2021 to 2024), the four showcase projects – IDunion, ID-Ideal, ONCE, and SDIKA – have worked on more than 100 use cases related to secure digital identities. These projects have also developed various types of wallets, which have been tested and implemented in multiple pilot environments. The Showcase Program has supported Research & Development (R&D) efforts, resulting in the creation of seven edge wallets, three organizational wallets, and one cloud wallet.

Within this framework, IDunion has specifically focused on developing organizational identities, including use cases such as "Know-your-supplier." This paper outlines the cost savings achieved through automated supplier master data management, leveraging EUDI wallets for legal entities and the EU Company Certificate Attestation (EUCC) issued by QEAA providers in accordance with Company Law. The paper was prepared by the scientific research provider for the program, "Begleitforschung Sichere Digitale Identitäten," led by the European School for Management and Technology (ESMT), on behalf of the BMWK.

2 Cost saving estimation

Current situation: Currently corporations maintain their supplier and customer master data records manually, which is time-consuming and leads to errors and redundancies. Large corporations need to maintain and assure high quality of several hundred up to millions of master data records. The maintenance costs per single data set was estimated to 11 €/year. The master data set considered for the cost estimation was limited to company name and address data and therefore is a subset of the data that will be available with the PID for legal person and the EUCC.

Solution based on EUDIW: EU Digital Identity Wallets (EDIW), PID for legal entities and public registry extracts (e.g. EUCC) as QEAAs enable almost completely automated management of business partner data. Suppliers present their attestations from their legal entity wallet to customers or legal entity wallets of other business partners. Presentation, verification and the transfer to internal systems is performed automatically. This reduces the number of proprietary data records maintained in parallel and minimizes manual, error-prone data entry.

Cost savings: The solution enables annual savings of estimated €85 billion for German companies. Only German companies with more than 2 million sales/year where included in this estimation. It was assumed that only their European business partners provide their data as verifiable attestations. This underscores the transformative impact of the EUDIW solution on master data management and its strategic importance for the private sector on the path to digital efficiency.

Conservative assumptions for the estimation model below[1]:

- Estimation of master data sets: The estimation is done by estimating the number of potential B2B relationships of companies and assuming that a B2B relationship generates at least one master data set. In practice, however, master data is often stored and replicated in different systems. As this is not considered, the cost savings in the estimation are therefore calculated conservatively.
- Annual master data maintenance costs: On average, a company incurs annual costs of around €11 per master data maintenance. This estimation is based on an estimation performed by „Verband Deutscher Automobilhersteller“ (VDA).
- Number of master data sets for large companies: An average of 300,000 master data was assumed for large companies based on project estimates and VDA work. It was also assumed that 60% of the master data per company is attributable to the EU suppliers (i.e. 180,000 master data items on average for large companies) and therefore only these are relevant for the EUDIW-based solution.
- Scaling based on turnover: The estimated number of B2B relationships of large companies can be scaled to other company sizes based on turnover[2].
- Implementation costs: The implementation costs are assumed to be €600 per year for small companies (<€10 million turnover). These costs are scaled to the larger company categories based on turnover. In addition to the implementation costs, companies must purchase the mentioned attestations (LPID, EUCC). The assumed costs are €1,000 per year. These costs are independent of the size of the company. Further implementation costs such as integration into ERP/CRM modules are neglected, as it is assumed that the market leaders will integrate the EUDIW modules accordingly.
- Very small companies: Due to their high number and heterogeneity in turnover and employee structure, very small companies are not included in the modeling, which leads to a more conservative savings estimate[3].

[1] Unless otherwise stated, the source is based on the calculations and statements of the IDunion project and the accompanying research SDI

[2] Based on: Federal Statistical Office (2023): Turnover sizes per company class, to be found at: https://www.destatis.de/DE/Themen/Branchen-Unternehmen/Unternehmen/Unternehmensregister/Tabellen/unternehmen-umsatzgroessenklassen-wz08.html

[3] This does not include 2.6 million very small enterprises, as there is a very high turnover variance (between €0 and €2 million turnover) and no valid statements can be made about average master data sets (see Federal Statistical Office (2023): Genesis-Online. To be found at https://www-genesis.destatis.de/genesis/online?sequenz=statistikTabellen&selectionname=48121#abreadcrumb)

Estimation model[4]

Potential savings for German companies[5]

Current costs for supplier master data maintenance	€ 85.3bn
Implementation costs	€ 0.35bn
Annual costs for the EU Digital Wallet	€ 0.25bn
Potential total savings	**€ 84.7bn**

Current master data maintenance costs

Enterprise size	Number	Costs per company[6]	Total costs
Big Enterprises[7]	15,500	€ 2m	€ 30.7bn
Small Medium Enterprises[8]	50,500	€ 0.8m	€ 40.4bn
Small Enterprises[9]	185,000	€ 0.08m	€ 14.2bn
Total Maintenance Costs			**€ 85.3bn**

Implementation Costs

Enterprise Size	Number	Cost per enterprise[10]	Total Costs
Big Enterprises	15,500	€ 6,300	€ 98m
Small Medium Enterprises	50,500	€ 2,500	€ 126m
Small Enterprises	185,500	€ 600	€ 111m
Total Implementation Costs			**€ 335m (€ 0.35bn)**

[4] The figures have been rounded for better understanding. The exact calculations were made in MS Excel, if desired, this data can be made available. Please contact werner.folkendt@de.bosch.com

[5] Calculation method: Potential total savings = Current costs for supplier master data maintenance - cost of Implementation costs - Annual costs of the EU Digital Wallet

[6] Based on estimated maintenance costs of € 11 per master data (source: IDunion and Verband Deutscher Automobilhersteller)

[7] A large company has a turnover of > €50 million (source: Federal Statistical Office, 2023)

[8] A medium-sized company has a turnover of €10-50 million (source: Federal Statistical Office, 2023)

[9] A small business has a turnover of € 2-10 million (source: Federal Statistical Office, 2023). Very small enterprises are not included here.

[10] The costs were calculated based on the willingness to pay of small companies (€600) and scaled for medium-sized and large companies. (Source: IDunion)

Annual EUDI wallet costs

Enterprise Size	Number	Cost per enterprise[11]	Total Costs
Big Enterprises	15,500	€ 1,000	€ 15.5m
Small Medium Enterprises	50,500	€ 1,000	€ 50.5m
Small Enterprises	185,500	€ 1,000	€ 185m
Total Implementation Costs			**€ 251m (€ 0.25bn)**

[11] Corresponds to the cost of a wallet per year (source: IDunion)