

Design Goals

eForm was developed to fundamentally rethink digital form processes — with six core guiding principles that combine openness, security, and future readiness.



Six Design Goals at a Glance

eForm combines six core principles into a cohesive system—for modern, secure, and future-ready form processes.

Openness

Open, documented standards
instead of proprietary formats



Security

Zero-trust architecture
with systematic
input validation



Long-term Archiving

Future-proof retention
without software
dependencies



Automation

Integrated formulas
and rules for
machine processing



Integration

Seamless integration
with existing system
landscapes



Offline Operation

Full functionality without an
internet connection



Open Standards

Core Technologies

eForm is based exclusively on three open, widely used standards:

SVG – Rendering and layout



JSON – Data structure and schema



ZIP – Container format



No dependencies on

~~Proprietary file formats~~

~~Specialized vendor software~~

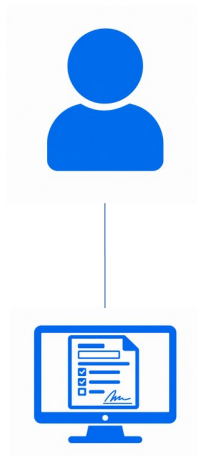
~~Cloud services or SaaS~~

~~Subscription models~~

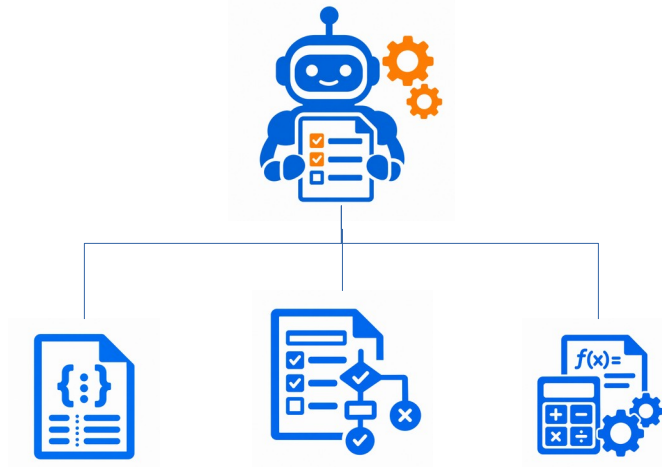
The eForm Concept: 1 document = 2 perspectives

View, structured data, validation rules and calculations
— all combined in a single document.

Humans see a complete, interactive form



Machines read structured, validated data



eForm combines everything needed for a fully functional form in a single file

No media break, no data loss — from input to archiving.

Container Architecture



One file. Everything inside.

The eForm container is a ZIP archive with a clearly defined structure, embedded into an svg-file:

```
form.eform =  
preview.svg  
└─ zip-archive  
   └─ manifest.json  
      └─ schema.json  
         └─ data.json  
            └─ formulas.json  
               └─ page1.svg
```

- ➔ **One file** – no file chaos, no synchronization effort
- ➔ **Immediately viewable**
– SVG can be opened directly in the browser
- ➔ **Fully portable** – everything required is included

Universal Transport

eForm files can be transferred through any existing infrastructure
— without special middleware or proprietary gateways.

Encrypted / signed email

direct sending as a file attachment—no portal, no login

ELSTER & meinJustizpostfach

compatible with established
government infrastructures

DMS Systems

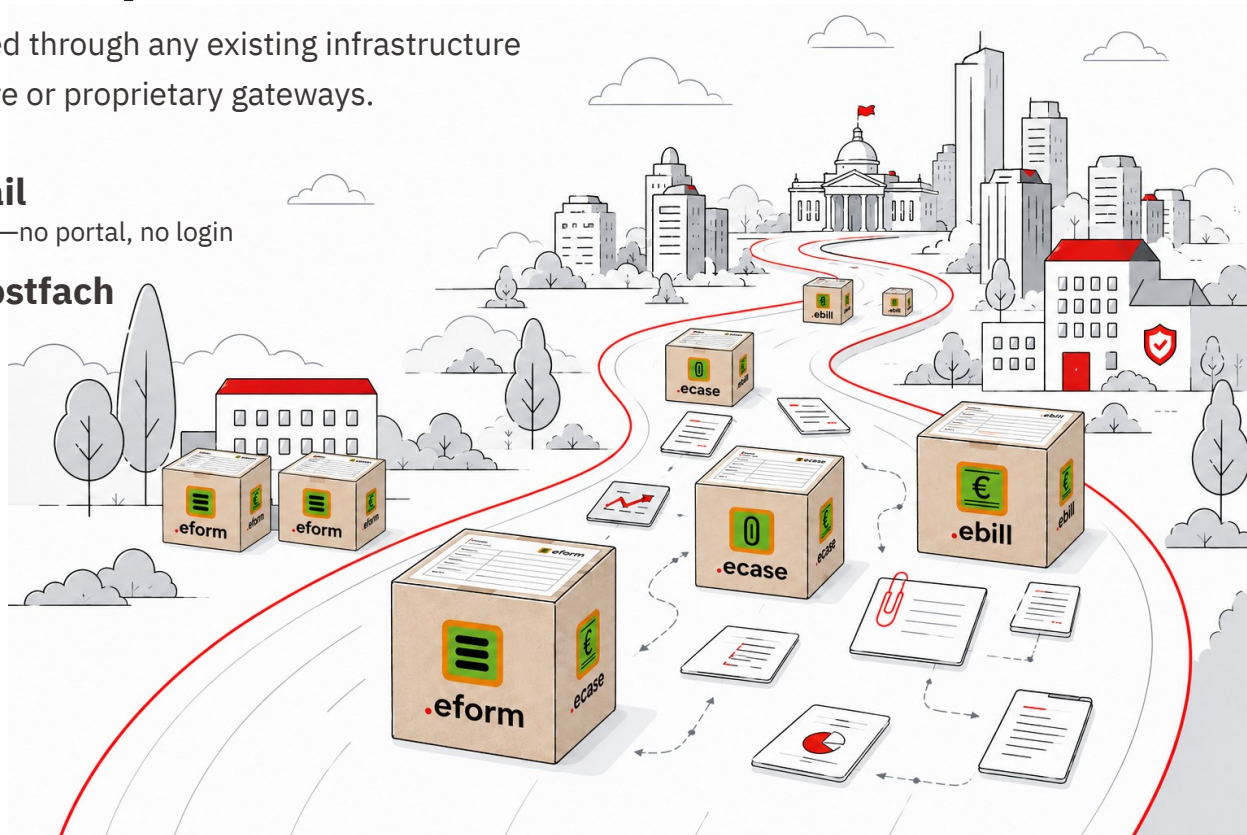
seamless integration into existing
document management systems

Network Drives

simple storage in local and
central file systems

NO new interfaces

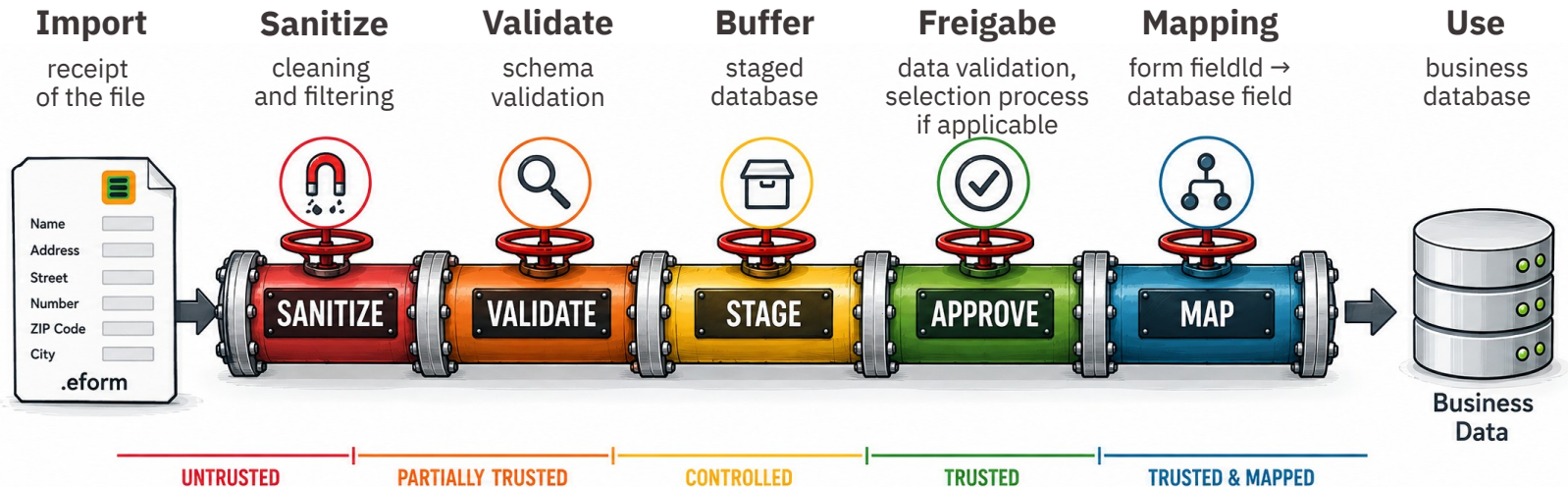
no additional attack surface,
no maintenance of web interfaces



Zero-Trust-Processing

Incoming forms are always treated as **untrusted**.

Each file passes through a defined security process before it reaches the production system.



Only after all stages have been successfully completed is the form transferred to the production system. This multi-stage approach significantly minimizes the risk posed by manipulated or faulty inputs.

Security

Tested SVG attack vectors

eForm was systematically tested against known SVG-based attacks:

Result

All tested attack vectors were successfully detected and removed or detected and rejected:

- ✓ **Detected** – Threats are reliably identified
- ✓ **Sanitized** – Malicious code is removed, file remains usable
- ✓ **Logged** – Full traceability is ensured

Scripts and event handlers

javascript: URLs

foreignObject embeds

Embedded payloads



Advantages for Operations and Administration

Cost & Size

Very small files, low archiving costs, electronic signatures possible

Security

No publicly exposed web portals, reduced attack surface, authentication via secure transfer channels

Integration

Easy integration into existing system landscapes without complex middleware

And last but not least:

eForm can be faxed!

Or be delivered
by clay tablets...



E-Mail: tellmi1@gmail.com

Web: <https://www.mjehnichen.de/projekte/libeform/index.html>