

Let's talk Matrix between
Governments and Citizens

Governments provide a lot of services...

 Birth	 Partnership and Family	 School, Vocational Training and Higher Education	 Work
 Construction and Housing	 Taxes and Social Insurance Contributions	 Identity Papers and Documents	 Migration and Integration
 Mobility and vehicles	 Elections, Civic Engagement and Participation	 Hobbies and Leisure	 Travelling and Spending Time Abroad
 Health Care and Prevention	 Social Benefits	 Rights and Consumer Protection	 Emergencies and Assistance to Victims
 Climate and the Environment	 Retirement and Retirement Benefits	 Death and Inheritance	

Total of 575 service categories with > 13.000 individual services

Source:
servicesuche.bund.de

How to apply for these services?

Option 1:
You don't have to!
"proactive government"



Option 2:
Apply offline
at your local city hall



Option 3:
Apply online
via app or via website



request government support
(via web form or app)



That's easy because:

- Government websites are public
- Contact details of government agencies are public (including public keys)





That's harder, because:

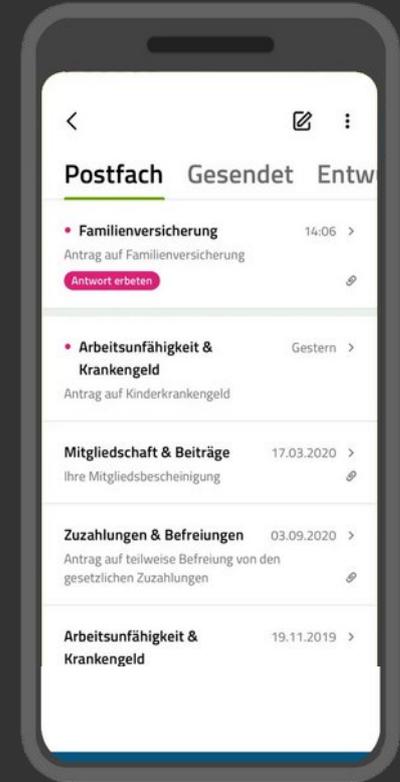
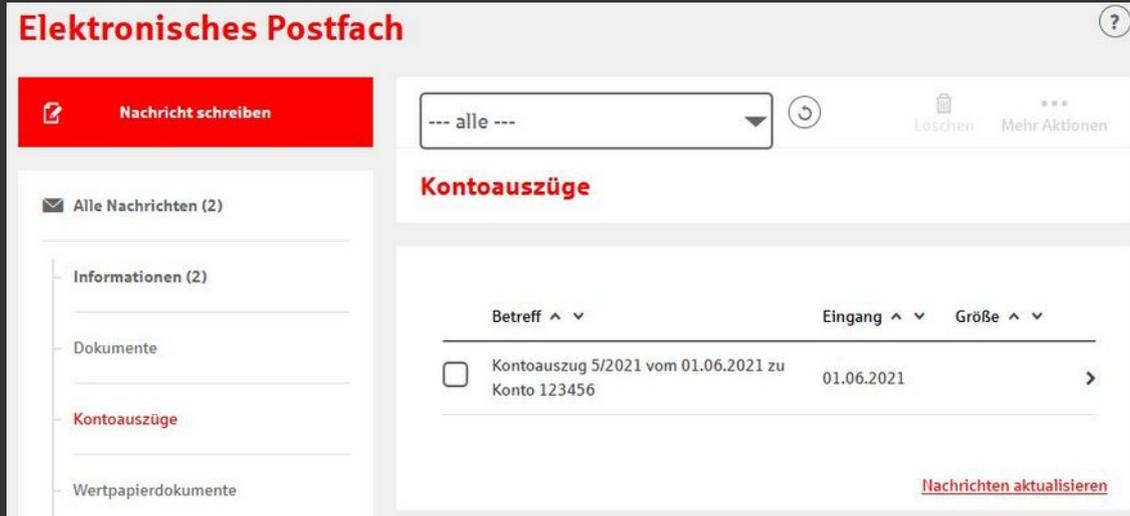
- Contact details of individuals are not publicly available
- We don't want to force people to install specific apps



government responds

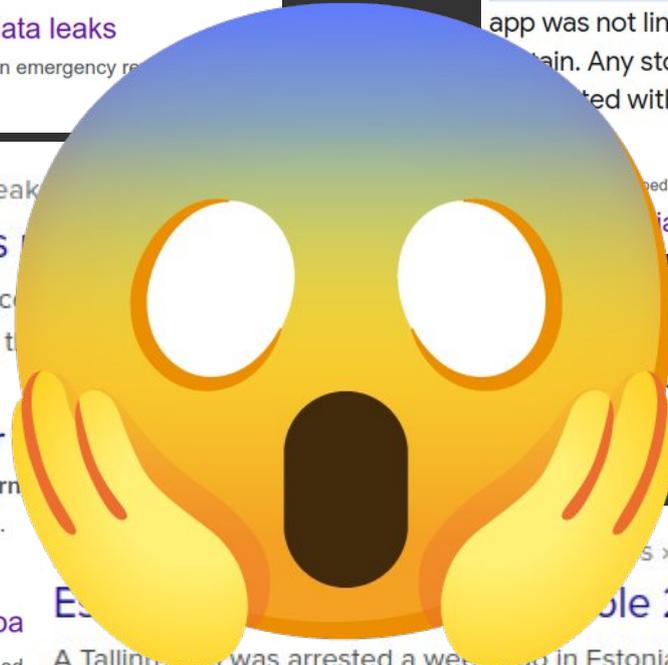
(but person may have left the website / uninstalled the app)

How does industry solve this issue?



→ plain-text messages
on central server

How did other governments solve this issue?



The Register

<https://www.theregister.com> · [jap...](#) · [Diese Seite übersetzen](#)

Japan's digital ID gets emergency review amid data leaks

22.06.2023 — Japanese prime minister Fumio Kishida has ordered an emergency review of the nation's ID Cards, amid revelations of glitches and data leaks ...

In May 2020, the data of 26 million driver's licenses appeared in the public domain on the Internet. The Ukrainian government said the Diia app was not linked to a data breach, but it is impossible to say for certain. Any storage of official documents in electronic format is associated with the risk of their leakage.

<https://www.zdnet.com> · [article](#) · [another-data-leak](#)

A new data leak hits Aadhaar, India's

A data leak on a system run by a state-owned utility company exposed private information on all Aadhaar holders, exposing the

Hacker steals government ID database for

17.10.2021 — A hacker has breached the Argentinian government's ID card details for the country's entire population, data that is ...

CNN

Millions of Americans' personal data exposed in global

Millions of people in Louisiana and Oregon have had their data compromised in a sprawling cyberattack that has also hit the US federal...

16.06.2023

[wikipedia.org](#) · [wiki](#) · [Diia](#)

centralising digital ID verification on ...

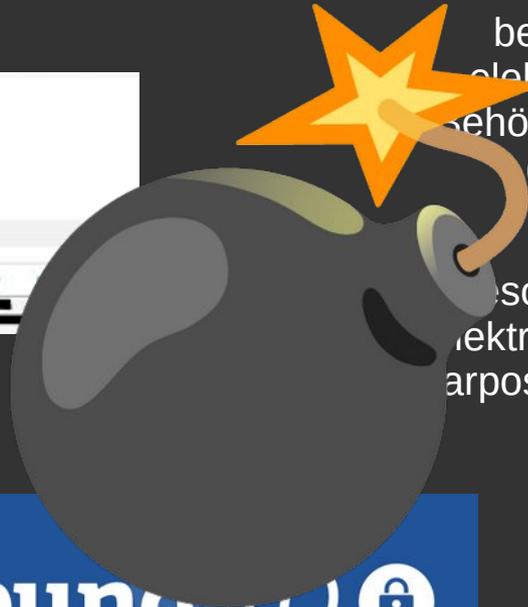
Government is considering using myGov or its myGovID system for digital verification in the wake of the ...

[security](#) · [estonia-arrests-hacker-who-stole-286k-i...](#)

Est... stole 286K ID scans from govt database

A Tallinn man was arrested a week ago in Estonia under suspicion that he has exploited a government photo transfer service vulnerability to download ID scans of 286,438 Estonians from the Identity ...

How did the German government solve this issue?



besonderes
elektronisches
Behördenpostfach
(beBPO)

besonderes elektronisches
Steuerberaterpostfach (beSt)

besonderes
elektronisches
Anwaltspostfach
(beA)



besonderes
elektronisches
Anwaltspostfach (beN)

besonderes elektronisches Bürger- und
Organisationenpostfach (eBO)



Digital Health Apps



ZERFORSCHUNG

Forscher*innen

Projekte

Archiv

Unterstützen

Datenabfluss auf Rezept

Krankenkasse bzw. Kostenträger		Hilfs- mittel		Impf- stoff	Spr.-St. Bedarf	Begr.- Pflicht	Apotheken-Nummer / IK	
Gebühr- frei	Die Gesellschaft		6	7	8	9		
Geb.- pfl.	Name, Vorname des Versicherten		Zuzahlung		Gesamt-Brutto			
noctu	Dingenskirchen, Günther Alexandra				>20.000			
Sonstige		geb. am	Arzneimittel-/Hilfsmittel-Nr.		Faktor		Taxe	
Unfall	Kassen-Nr.	Versicherten-Nr.	1. Verordnung Cankado		2			
Arbeits- unfall	Betriebsstätten-Nr.	Arzt-Nr.	2. Verordnung Novego					
		Datum	3. Verordnung DSGVO					

<https://zerforschung.org/posts/datenabfluss-auf-rezept/>

auß-
erordn.

6664

Bei Arbeitsunfall

Abgabedatum
in der Apotheke

Unterschrift des Arztes
Muster 16 (7.2008)

“Mein Justizpostfach” leak



NETZPOLITIK.ORG

Data leak

“My Justice Mailbox” grants third parties access to data

Individuals should be able to communicate digitally with the judiciary via the new justice mailbox. But the price for this is high, because their private data ends up in the address directory of electronic legal transactions, which thousands of people from the judiciary can access.

<https://netzpolitik.org/2023/datenleck-mein-justizpostfach-gewaehrt-dritten-datenzugriff/>

Vision

Communication between governments and citizens needs to be **easy, reliable and encrypted.**



Matrix to the rescue



- ✓ End-to-end encrypted messages
- ✓ Multi-device access (app + web)
- ✓ access via **third-party apps and services** (cooperate IT systems, e-gov apps, etc.)

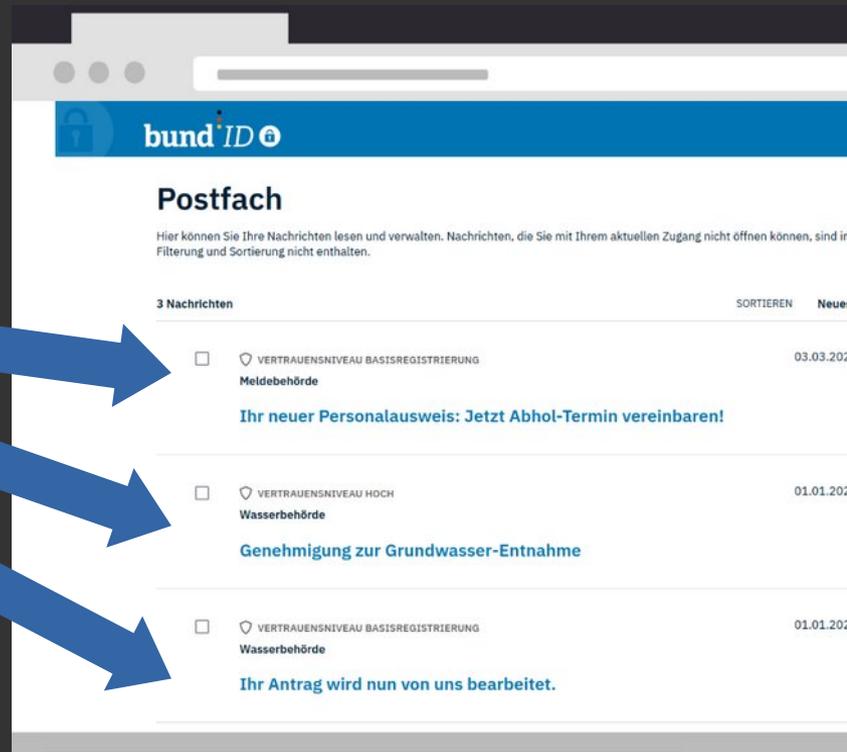
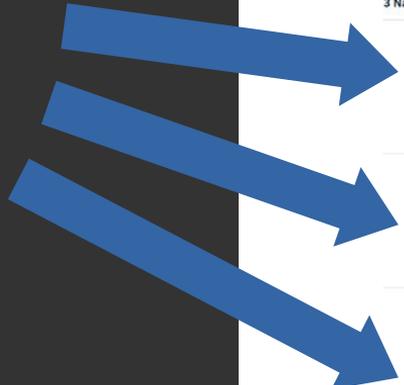
[**matrix**]



Matrix-based secure communication channel

Matrix + BundID

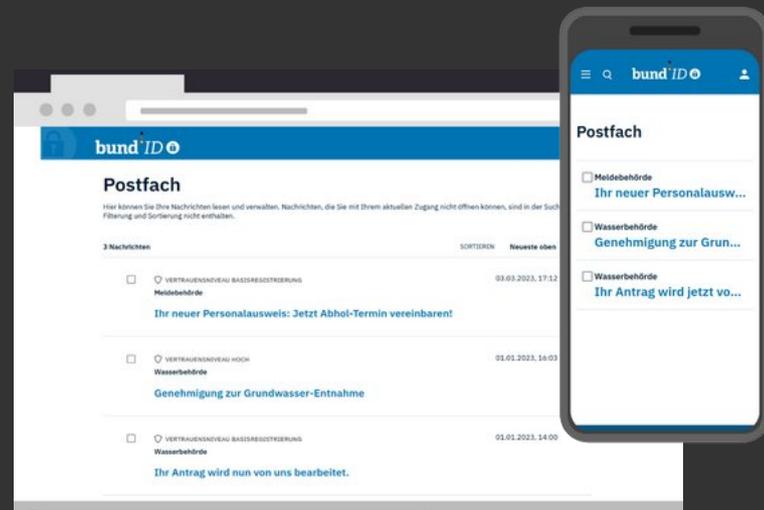
Matrix messages



Great User Experience

- Push notifications & status updates
- Polls / multiple-choice questions
- Image / document upload

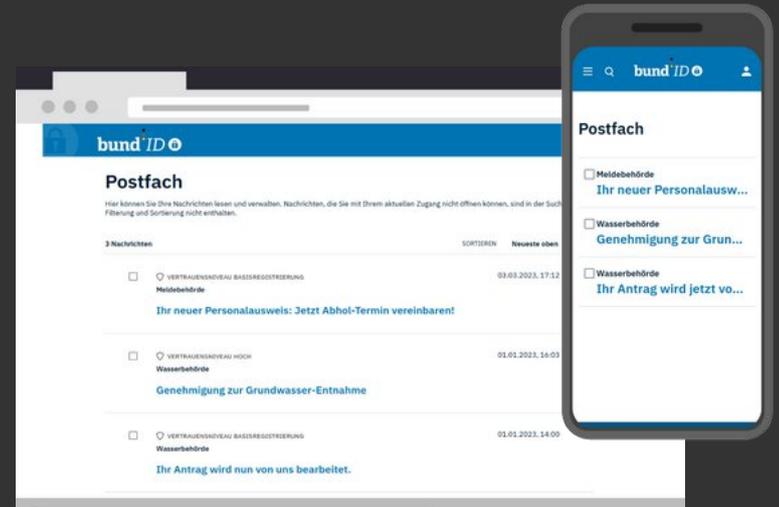
Already built-in



Great ~~User~~ Developer Experience

- Push notifications & status updates
- Polls / multiple-choice questions
- Image / document upload
- **SDKs**

Already built-in



What Matrix offers us

- ✓ Great usability
(esp. compared to e-mail based systems)
- ✓ Tried and tested security
- ✓ Interoperable & easy to integrate
- ✓ Ready-to-use interoperability layer,
many features are already there

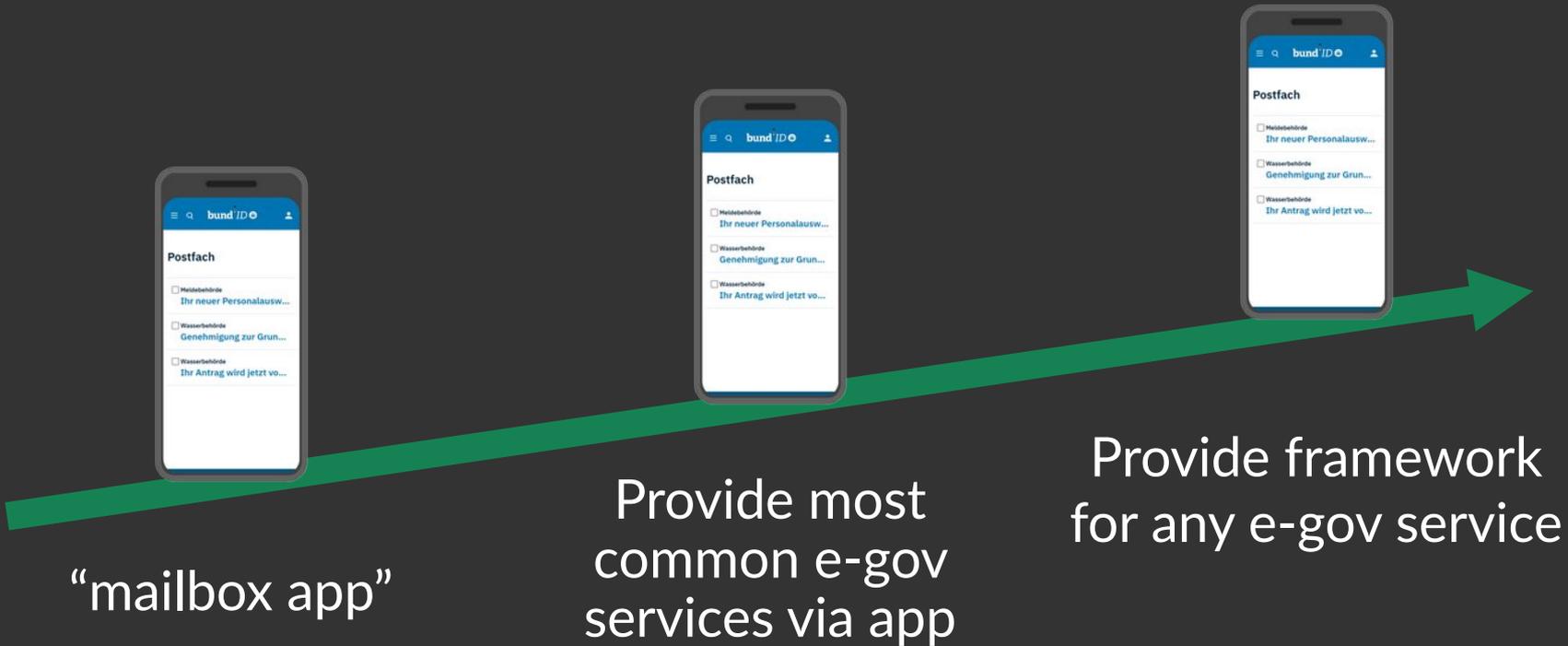
matrix

Strategic Thoughts

End-to-end encrypted communication is a **key enabler** for...

- seamless e-gov services
- “trivial” and privacy-preserving realization of the once-only principle
- “wallet”-like use-cases (attestation and presentation of attributes)

Broader vision



National, *privacy-first* e-governance app



Let's talk about infrastructure :)



Status quo: Different tech stacks



Matrix as an interoperability layer



Thanks for listening!

Let's discuss!
#matrix4gov:matrix.org

Project infos (in German):

<https://gitlab.opencode.de/fitko/rueckkanal-ueber-messengerdienste>



@marco@darmstadt.social



@marcoh___:tchncs.de

More infos about Germany's government IT

awesome-egov-de

A curated list of resources on e-government in Germany.

Pull requests and feedback via issues welcome! Get in touch via the [matrix](#) chat at [#awesome-egov-de:tchncs.de](#)

Communities

Places to ask questions and find other community resources.

- [eGov AfterWork meetup](#): monthly meetup of the [eGovernment Podcast](#) community
 - [Matrix chat](#)
 - [Twitter](#)
- [N3GZ Nachwuchsnetzwerk Digitale Verwaltung](#): junior network for people working in public administration, industry and science
 - [eGov-Wiki](#)
 - [mailing list](#)
 - [Twitter](#)
- [Code for Germany](#): civic tech open government network
 - [Twitter](#)
- [bund.dev](#): civic tech community that documents government APIs

opengovtech.de