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Explaining International Leadership: Electronic Identification Systems

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Overview for Today

What is an e-ID?

How are e-IDs being used in other countries?

What can the U.S. learn from early adopters?
“On the Internet, nobody knows you’re a dog.”
What is an e-ID?

**Electronic identification (e-ID) system**—a system of technologies and policies that enable individuals to electronically prove their identity or an attribute about their identity to an information system.
What is an e-ID?
(Potential) Benefits of e-ID systems

- **Individuals**
  - Authentication: multi-factor authentication, SSO
  - e-signatures: securely sign legal contracts or enroll in service
  - Enhance privacy and security (e.g. reduce fraud, identity theft, stolen passwords)

- **Businesses**
  - Better interact with consumers
  - Develop new products and services using e-IDs (e.g. sign documents or e-wallet/mobile payments/e-cash)

- **Government**
  - E-government services: better and more secure
  - Sign government documents: enroll in benefits, file taxes, etc.
  - Online voting: securely vote remotely in elections
  - Secure travel document
How are e-IDs being used in other countries?

<table>
<thead>
<tr>
<th>High deployment</th>
<th>Low deployment</th>
<th>No deployment</th>
</tr>
</thead>
<tbody>
<tr>
<td>High use</td>
<td>Estonia</td>
<td>Denmark, Sweden, Italy, Spain</td>
</tr>
<tr>
<td>Low use</td>
<td>Austria, Belgium, Malaysia, Slovenia</td>
<td>Finland, Germany, Iceland, Lithuania, Portugal</td>
</tr>
<tr>
<td>No use</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Table 1: Levels of deployment and use of e-ID systems, select countries
How are e-IDs being used in other countries?

- **Austria**
  - Initiated: 2001
  - Unique feature: multiple tokens include bank card, health insurance cards, student cards, mobile phone

- **Belgium**
  - Initiated: 2004, > 9 million BelPIC cards
  - Examples
    - Use e-ID with > 600 e-government services, such as reporting information to police and signing tax returns
    - Use e-ID to purchase admission to sporting event and use as ticket
How are e-IDs being used in other countries?

- **Denmark**
  - Initiated: 2003 (first proposed in 1992)
  - Unique feature: primarily software-based digital certificates with OTP
  - Primary uses banking, e-government and health care

- **Estonia**
  - Initiated: 2002, > 1 million
  - Uses: e-banking, sign tax declarations, sign documents, e-voting, access e-services, access wireless networks

- **Malaysia**
  - Initiated in 1999, MyKad > 19 million
  - Uses: debit card, ATM card, driver’s license, travel document, e-cash, e-banking, health care, public transportation
What can the U.S. learn from early adopters?

Collaborate with all stakeholders

Support current and emerging technology

Use government to increase both supply and demand

Maximize utility for both users and service providers

Do not eliminate useful information from the information economy

Strive for disruptive innovation, not just incremental innovation

Make e-IDs accessible and available to all individuals

Design an e-ID system for the global economy
Thank you!

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