# Citizen Digital Identity

Enabling and Empowering Individuals and Institutions

**Microsoft**

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# Why is identity so important?

In today's modern environment, our online identity is incredibly important to us. Whether it's logging into your favorite social network to connect with other people across the world, accessing applications to work from your devices at home, or increasingly, for essential government services. In constructing and confirming those identities, we lean on trusted institutions— organizations such as governments, banks, major technology companies—they are the keepers of our digital identities, confirming we are who we say we are. We must trust them to protect our data when we set up an account, and every time a security breach occurs, it damages that trust. In the modern digital world, digital identification is an opportunity and a necessity for many individuals and organizations to access services and participate in the modern economy

## Digital Identity Global Landscape

| 1 Billion | 6.6 Billion | 110 Billion |
|---|---|---|
| Nearly one billion people globally lack a legally recognized form of identification | 6.6 billion people have some form of identification, but over half can not use it effectively in today's digital ecosystems* | 110 billion potential hours saved through streamlined e-government services, including social protection, enabled by Digital ID* |

*Digital Identification: A Key to Inclusive Growth January 2019. McKinsey Global Institute



The importance of digital identity is a concern in a world where almost one billion people today lack legally recognized forms of identification.[1] Of the more than six and a half billion people who do have some form of identification, at least half cannot effectively use that ID in today's digital ecosystem.[2] This conveys a massive advantage on individuals who have firm digital identification and is a significant barrier to businesses, governments, and other organizations that seek to conduct online services. Well-designed digital identification or "digital ID" can enable individuals to access vital digital services—education, banking, government benefits, and more. Digital ID is also crucial for an organization's security and userbase knowledge. When verified, Digital ID unlocks opportunities for innovative service provision and user support.

***You need to ask yourself***

- Has my agency successfully developed trust in our digital transformation?

- Are we prepared for the new security challenges posed by digital transformation?

- How can we protect and use identity in our digital transformation?

1  World Bank ID4D database
2  McKinsey Global Institute – Digital Identification: A key to inclusive growth https://www.mckinsey.com/~/media/ McKinsey/Featured%20Insights/Innovation/The%20value%20of%20digital%20ID%20for%20the%20global%20 economy%20and%20society/Digital-ID-a-key-to-inclusive-growth-January%202019.ashx

## Why is identity the key to modern security?

Attackers are already signaling that they view identity as critical to modern security, concentrating their attacks on this crucial control plane as identity-based attacks led the 300% overall increase in attacks experienced in 2017.[3] These numbers only continued to rise in 2018. This attack concentration is due to the changing shape of the modern workplace. With identity playing a vital role as the perimeter defense in every IT environment, cyber-attacks against identities will only continue to increase in their sophistication and persistence. This is further complicated by the current need for digitally active individuals to maintain multiple disparate digital identities to access business or government services.

> " Digital identity is a cornerstone of how people live, work and play every day. We believe people should be in control of their digital identity and data, and we're thrilled to first work with Mastercard to bring new decentralized identity innovations to life. "

### Joy Chik
Corporate Vice President, Identity, Microsoft

**Microsoft**

3 https://news.microsoft.com/apac/2017/08/18/new-microsoft-security-report-stresses-online-identity-protection/



## What we need: Citizen Digital Identity

Today's citizens are mobile and expect information and services to come to them via their devices or at their preferred location. Driving these changing citizen expectations are innovative private sector companies where faster rates of transformation have been motivated by competitiveness and market forces that rapidly disrupt traditional processes and business models. This creates an environment where trust is crucial to successful digital transformation.

While many governments are attempting to meet these evolving needs, the infrastructure is a patchwork and is failing to meet expectations. Seemingly every agency, municipality, and nation use a different version of Citizen Digital Identity, and adoption rates tend to be low.

By increasing the pace of digital government transformation to appropriate levels and streamlining Citizen Digital Identity, government services can evolve and innovate to better engage with and meet the rising expectations of citizens. Digital government services improve citizen engagement and provide enhanced experiences through connected omnichannel services that increase reach, participation, and satisfaction. With governments enabling our cities, powering our electrical grid, and administering critical public systems, it's crucial that we acknowledge that unique role and also develop digital resilience to minimize service interruptions from cyber threats.

Many governments are beginning to embrace this opportunity for secure digital government services—in 2000 Estonia launched their e-ID system, now with over 940 public and private sector institutions connected today. Unlike many governments, they've achieved a more than 90% adoption rate and through their e-ID facilitate authentication, data storage and sharing, and digital signature through a chip-based card or digital keys. Canada launched SecureKey Concierge in 2012 in partnership with financial institutions and has achieved a 50% adoption rate while enabling secure authentication within a range of public and private sector institutions via online login.

> **"** Building trust in the online environment is key to economic and social development. Lack of trust, in particular because of a perceived lack of legal certainty, makes consumers, businesses and public authorities hesitate to carry out transactions electronically and to adopt new services. **"**

## eIDAS Regulation No 910/2014

eIDAS (electronic IDentification, Authentication and Trust Services

**eID.AS**

## Trusted identity institutions—building trust in citizen services

Canada's partnership with the financial services industry is an excellent example of the need for trusted Identity institutions in solving the challenge of digital government services and in embracing Citizen Digital Identity. Banks and other financial institutions have been trusted identity and security providers for years, and this trust is an important consideration when choosing a financial institution. We must trust that they will keep our financial assets and personal information safe and secure. We do the same thing with Government—our tax information, our identity documentation, and more.

These trusted institutions are crucial in shaping and reconstituting digital identity. Major businesses and governments play a unique role as the institutions with the ability and indeed, responsibility to identify and authorize access. We need that same level of trust in our digital services. To mitigate identity fraud, achieve improved user experience, enable economic growth, and lower the cost of service, we need governments and other trusted identity institutions to establish Citizen Digital Identity.

## There are some fundamental challenges we need to resolve to achieve trusted citizen identity:[4]

### Verification assurance

Successful citizen identity must meet both private-sector and government standards for registration and acceptance. One of the key advantages of using trusted identity institutions for verification is that Citizen Digital Identity users will be able to use this digital identification for important economic and civic institutions—such as for opening a bank account, establishing credentials, or seeking a job.

### Uniqueness

Digital citizen ID needs to be unique—everyone must have only one identity. In today's digital environment, we use a multitude of identities on social media and elsewhere—digital citizen ID should operate like any other form of unique citizen ID, but with digital access and verification. Citizens currently use a multitude of various identity credentials; a single trusted source of truth is required in order to establish a single trusted individual credential. Total cost of ownership can be a huge issue when the same solution is being repeated across government agencies without an opportunity for reuse. Failing to reconstitute Citizen Digital Identity into a singular system will stop organizations and individuals from reaping the benefits of opportunities such as connected services and improved security.

### Consent & Acceptance

Individuals should register for and use their digital citizen ID knowingly. Citizen's will control their own personal data and how it will be used. However even with consent, it is crucial that citizens and providers actually accept and use the system.

### What are the risks?

Due to the pervasiveness of digital identity, there are risks if the technology is subverted or used for malicious purposes. With that in mind we emphasize security and privacy in how we believe Citizen Digital Identity should be created. If someone's digital identity is penetrated, it can be a major problem, and if a government were to misuse Citizen Digital Identity to target political opponents or in other malicious ways, the damage could be widespread. We believe firmly that all Citizen Digital Identity must have privacy, security, and trust as guiding principles.

4  Microsoft Services 2018: Identity—Building trust in a digital world

" Some employees could spend half an hour a day connecting to VPNs and signing in, and that doesn't capture forgotten passwords or support calls. We're using Azure AD to give each one of our 20,000 employees one identity and one password. "
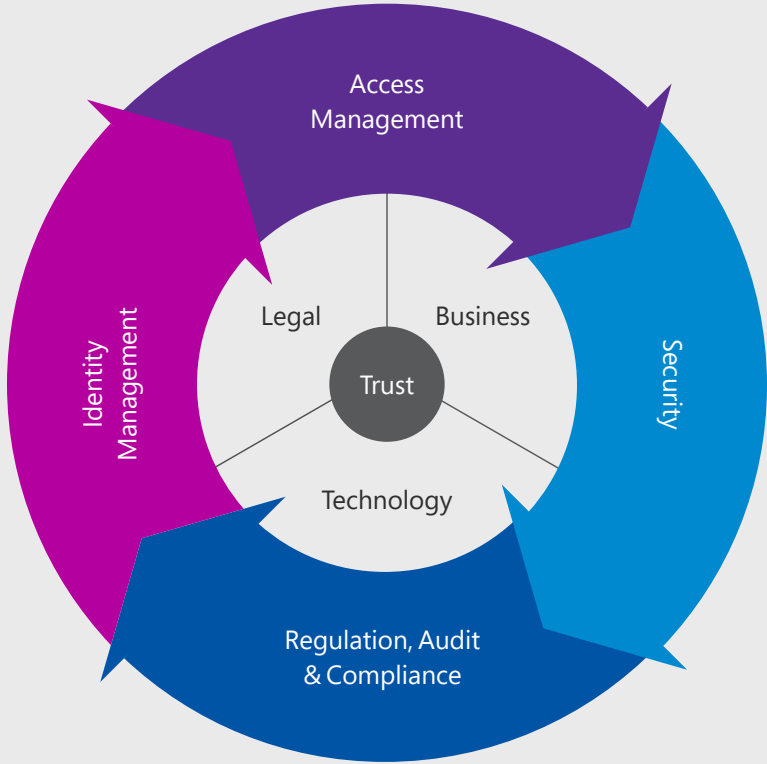
**Chris Suozzi**

Executive Director, Active Directory/Messaging/IDM,
Hearst Communications

**H E A R S T**
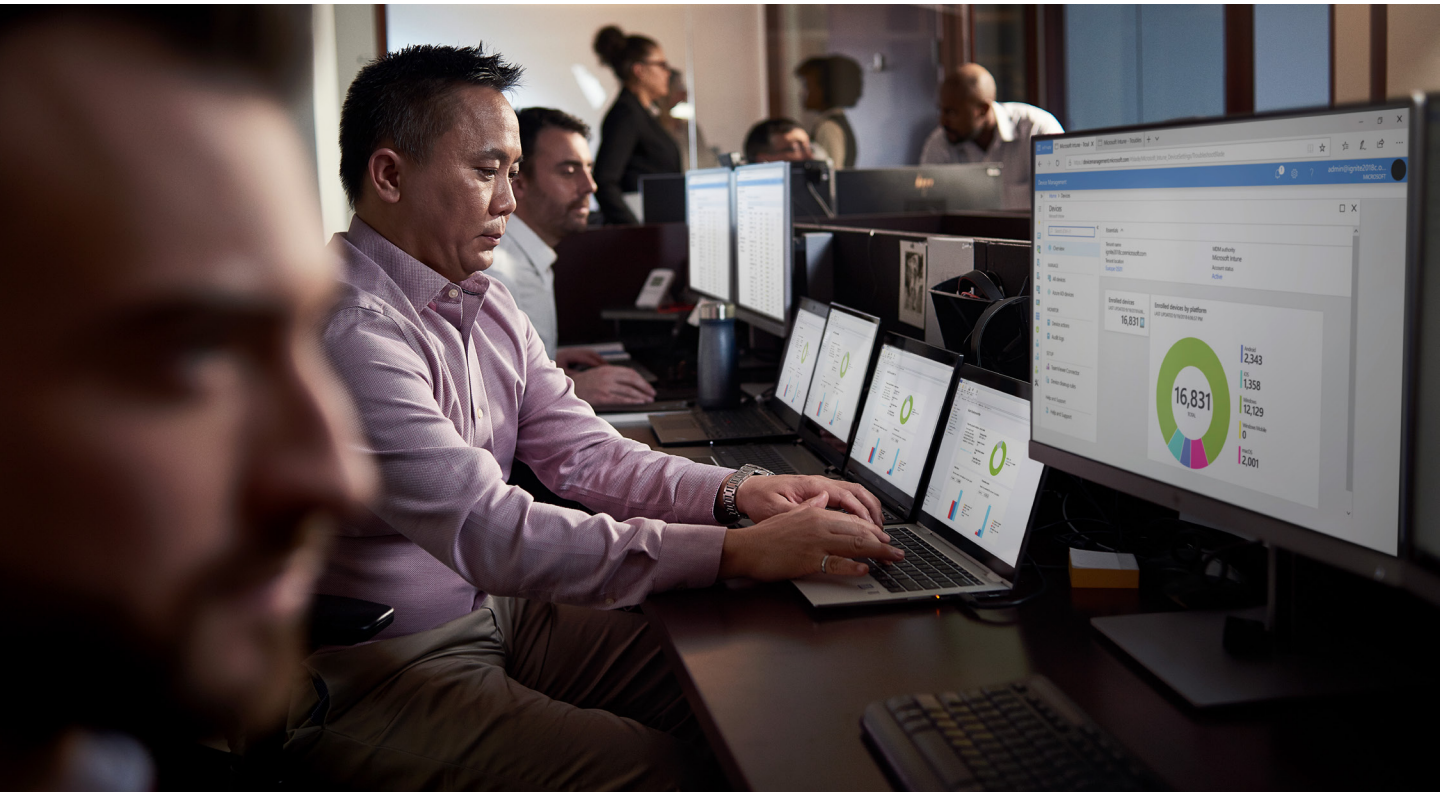
## What are the four critical dimensions of establishing trust in the digital age?



### Identity Management

The first key to developing trust in the digital age is identity management. This requires defining how users are provisioned and authorized to access systems and includes their roles as derived from within a role management system. This role management system generally rolls into access management. Another important feature of identity management is to identify which user information will be shared and how often it will be updated.

### Security

Next up, you have the crucial need for security—without it, there is no trust. You must secure identity and protect crucial information. This means defining encryption requirements and also creating a federated agreement with defined standards and protocols.

> " If you configure your users with Multi-factor authentication (MFA), that reduces the risk (of attack) by 99.9%. Unfortunately, a surprising number of customers haven't turned on MFA; it's like driving without a seatbelt. "[5]

### Joy Chik

Vice President, Identity Division in Microsoft's Cloud + Enterprise Group

Microsoft

### Access Management

Another essential piece of trust establishment is managing access. If you have a secure system with defined and established identity, but access isn't managed—what would be the point? Instead, there needs to be a form of authentication that spans organizations. This allows partner companies and governments to determine user access permissions based on role or other considerations. This kind of system will work, but it is essential to schedule periodic access reviews to get rid of old credentials, check for errors, and update roles as needed. With the increasing proliferation of devices and users , there needs to be a central means of managing and storing information about users and their access.

### Regulation, Audit, and Compliance

Regulatory and compliance needs can vary widely. It is therefore important to identify privacy requirements and local regulations that are applicable to both individuals and connected businesses—such as medical privacy licensing requirements for nurses. Compliance audits should check both that regulatory requirements are being fulfilled, but that negotiated policies, service level agreements, etc. are being followed by each party.

5  2018: Microsoft security: How the cloud helps us all be more secure

# How can Citizen Digital Identity transform the world?

When Citizen Digital Identity meets the criteria we've laid out above, the opportunity is huge. As businesses and countries continue to digitally transform and can provide digital access to services, the opportunity is there for Citizen Digital Identity to enable economic development, empower individuals, and change the way we deliver essential government services.

A single source of trusted Citizen Digital Identity can become the foundation for how individuals access the digital world; how they go about their lives, interact with businesses and government, and have social interactions.

## Improved outcomes for citizens and businesses

With properly implemented and designed Citizen Digital Identity that protects individuals, we can potentially enable the creation of billions of dollars in digital economic value. This kind of digital ID enables individuals to access a wide array of services in a simple and time-saving manner. With 1.7 billion people across the world currently unable to access financial services,[6] the potential economic impact of access to services via Citizen Digital Identity could be transformational. We could also see about 110 billion hours of time saved through streamlined e-government services,[7] a massive opportunity for individuals to recoup lost time. Institutions would also see large gains across the board. These would come in the form of increased productivity, cost savings, and a massive reduction in fraud. McKinsey estimates that improved digital registration via digital ID could reduce payroll fraud by an estimated $1.6 trillion globally while also cutting onboarding costs for employees by as much as 90 percent.[8]

Nor are the benefits exclusive to those without digital forms of ID—for the 3.2 billion people who participate in the digital economy with a form of legally recognized identity, the ubiquity, security and access provided by effective Citizen Digital Identity can provide gains. No matter what an individual's current level of access, Citizen Digital Identity provides the promise of greater access to goods and services through a formalized and secure system that reduces fraud, protects individual rights, and creates efficiencies through digital ease of use. A transparent and secure Citizen Digital Identity system will empower and enable citizens and businesses.

6  World Bank ID4D Findex
7  https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Innovation/The%20value%20of%20digital%20ID%20for%20the%20global%20economy%20and%20society/Digital-ID-a-key-to-inclusive-growth-January%202019.ashx
8  https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Innovation/The%20value%20of%20digital%20ID%20for%20the%20global%20economy%20and%20society/Digital-ID-a-key-to-inclusive-growth-January%202019.ashx

✮✮✮ **Customer Reference:** Wiltshire Council improves services for 470,000 residents[9]

> **"** We want to expand that philosophy of speed, simplicity and user-friendliness to even complex engagements by giving all of our citizens a unique ID which enables them to log on to our portal and conduct all of their interactions with us digitally. **"**

### Paul Day

Interim Director for Digital and ICT Wiltshire Council

**Wiltshire** Council

Citizens want to interact with government digitally. Wiltshire wants to leapfrog that with great digital services but, also introducing some radical new technology in terms of process automation.

Wiltshire Council is using Microsoft Services to become one of the most cutting-edge councils in the country.

The council plans to have a single citizen ID for all services so you'll just log on once with your unique ID for Wiltshire Council, and you can do the whole lot. It uses Microsoft Dynamics to draw more insights from the data it holds on the county's 470,000 residents.

**Read more:** customers.microsoft.com.

9  https://customers.microsoft.com/en-us/story/wiltshire-council-improves-services-dynamics-365

## How does Citizen Digital Identity drive inclusion?

One of the most crucial functions of Citizen Digital Identity is to access businesses and financial services. With more than one billion people globally estimated to lack any form of legally recognized identification, Citizen Digital Identity offers an opportunity to drive rapid inclusion for the disenfranchised via access to government and economic services that include benefits, financial services, and new job opportunities. Women form a disproportionately high number of the identity disenfranchised; 45 percent of women over the age of 15 lack identification in low-income countries, while only 30 percent of comparable men experience the same challenges.[10] Of the 1.7 billion people the World Bank identified as unable to access financial services in 2017, nearly one in five attributed their lack of access to their inability to attain necessary identification documents.[11]

10  ID4D-Findex survey data 2017, World Bank.
11  Global Findex Database 2017: Measuring financial inclusion and the fintech revolution, World Bank, 2018.

## Securing government

For institutions, there is an opportunity to secure government services through digital identity with modern identity management functionalities such as conditional access, geoblocking, advanced behavioral analytics applied to identity, and more. Over the past several years, there has been an increasing trend in cyber attacks and disinformation campaigns against global elections and governments. The UK's 2017 referendum on EU membership,[12] Ghana's 2017 election,[13] the United State's 2016 election,[14] and many more across the world have been targeted by cyber criminals or enemy nation-states. Essential government services have also been targeted—in 2017, the WannaCry ransomware virus that targeted institutions in more than 70 countries temporarily crippled some UK hospitals.[15]
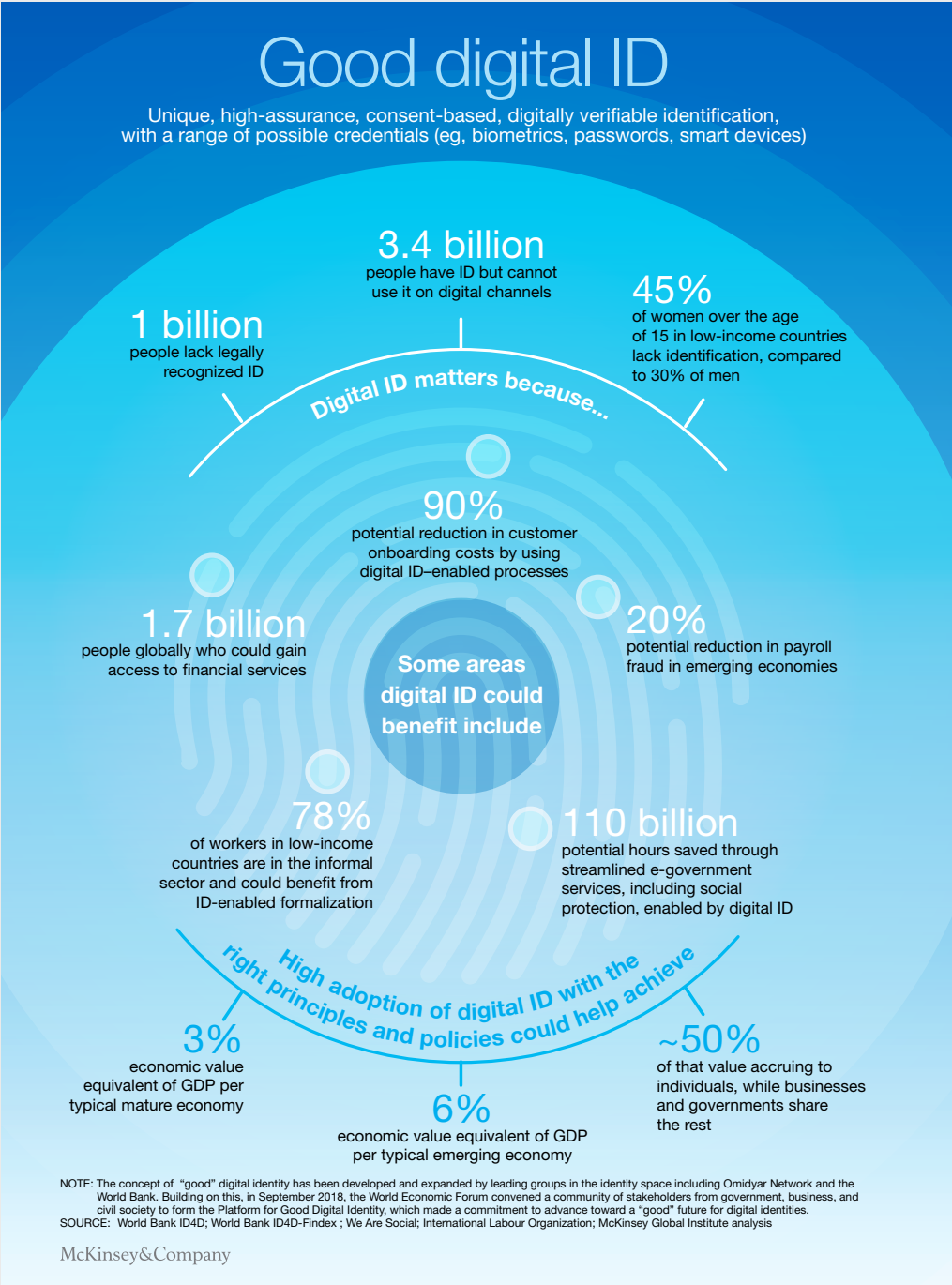
Nor are these attacks limited to government services or elections alone. At Microsoft, we've identified targeted attacks against think tanks and non-profit organizations working on public policy and election integrity.[16] Effective Citizen Digital Identity can help to address some of these potential attacks by securing and authenticating identity, an area where we've seen a massive increase in attacks.

### Our security signal: The Intelligent Security Graph

At Microsoft, we collect a large amount of telemetry data through our Microsoft Intelligence Security Graph. The graph compiles a vast array of signals from 5 billion threats blocked, 630 billion user authentications, 470 billion emails scanned, 18 billion Bing web pages scanned, and 1.2 billion devices updated every month.

| 100 million user identities are attacked every month, a 300% increase in identity-based attacks[17] | Attacks overall increased 300% in 2017[18] |
|---|---|

12  https://www.cse-cst.gc.ca/sites/default/files/cse-cyber-threat-assessment-e.pdf
13  https://www.bbc.com/news/world-africa-38247987
14  https://www.nytimes.com/interactive/2018/09/20/us/politics/russia-interference-election-trump-clinton.html
15  https://www.aljazeera.com/news/2017/05/disruption-uk-hospitals-hit-cyber-attack-170512160000368.html
16  https://blogs.microsoft.com/eupolicy/2019/02/20/accountguard-expands-to-europe/
17  https://www.beckershospitalreview.com/cybersecurity/microsoft-reports-300-increase-in-cyberattacks-in-past-year-4-report-insights.html
18  https://www.gcicom.net/News-and-Events/Blog/Business-as-usual-in-a-digital-warzone---how-Microsoft-protects-its-users-from-cyber-attacks

19  https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Innovation/The%20value%20of%20digital%20ID%20for%20the%20global%20economy%20and%20society/Digital-ID-a-key-to-inclusive-growth-January%202019.ashx

## What does successful Citizen Digital Identity look like?

One of the best examples of Citizen Digital Identity in action is India, where the Aadhaar identity system has reached over 90% adoption since its launch in 2009. Established by the government, the system enables digital biometric authentication for individuals and has developed a broad digital ecosystem. You can use your digital identity to receive government benefits directly to your bank, store digital documents, or authenticate yourself for financial services and other services via their e-KYC authentication system. This successful implementation of Citizen Digital identity has led to increased access to services and improved ease of use—and its unlocking economic gains.

✫✫✫ **Customer Reference:** Connecting with 500 million passionate fans worldwide[20]

With 500 million fans worldwide, the Real Madrid Football Club is among the world's top sports franchises. However, with just a small fraction of those fans in Spain, it needed a way to connect with them—wherever they are in the world—and support their club passion. To accomplish that goal, Real Madrid engaged a Microsoft Services

20 https://customers.microsoft.com/en-us/story/real-madrid

team for help in envisioning, developing, and deploying a global digital sports platform that was built using a wide range of Microsoft cloud services. It takes advantage of the global footprint of Microsoft cloud services to consistently deliver the very best fan experience anywhere in the world.

Real Madrid can now engage one-on-one with fans, implement targeted promotional campaigns, and use data to track and analyze fan behaviors, among many other capabilities. Today, club officials report digital revenue growth of 30 percent and could not be more positive about the club's digital future.

> We used to pull data from just five sources before, but now we pull from more than 70 sources using our Microsoft cloud platform. This has enabled us to grow our number of fan profiles by about 400 percent in the past two years—it's now in the millions.

**Begoña Sanz**

Commercial General Manager, Real Madrid

At Microsoft, we've worked with companies and governments all over the world to develop digital identity. Real Madrid's scale, reach, and needs are an excellent example of the potential for Citizen Digital Identity. Visit customers.microsoft.com to learn more.

# Citizen Digital Identity leads to economic gains

McKinsey analysis of 7 countries (Brazil, China, Ethiopia, India, Nigeria, United Kingdom, and the United States) indicates that successful digital identity could unlock economic value in individual countries of between 3 to 13 percent of GDP in 2030. The potential impact and use cases vary across countries depending on their stage of digital transformation and economic development. For example, one significant benefit is that citizens can represent their businesses in transactions —an especially important feature when you consider the number of businesses that governments deal with on a day to day basis.

Of those case example countries, India is already well on its way to unlocking the economic value of Citizen Digital Identity. Aadhaar now covers over 1.2 billion people and has enabled a massive increase in access to financial services—from 48 million in 2016–17 to 138 million in 2017–2018. The State of Aadhaar report's survey found that of those who opened a bank account from 2014 to 2017, 84 percent used Aadhaar for identification.[21] India is also now using Aadhaar to reduce fraud in public benefits disbursement, with 82 percent of accounts using Aadhaar and an estimated additional potential GDP growth of four to six percent by 2030.

Even in developed economies such as the United Kingdom, there is potential for Citizen Digital Identity to unlock additional economic growth. McKinsey calculates that the United Kingdom could see GDP growth from 0.5 to 3 percent due to adoption of digital ID technologies—largely from simplifying and streamlining taxpayer and beneficiary interactions which require high-assurance identification, allowing Citizen Digital Identity to save significant time and reduce tax fraud by allowing digital vs. in person authentication.[22]

The question becomes, how can we successfully implement Citizen Digital Identity on the scale of Real Madrid, India, and elsewhere—and how can we go beyond what is already being done to achieve citizen services successfully?

### ✰✰✰  The Future of Citizen Services: AI-powered Citizenbot delivers digital in the UK

Navigating a maze of public sector services can be confusing and challenging for many individuals. That's why Microsoft has developed Citizenbot in the UK—a multi-channel AI bot for connecting with and guiding citizens. Citizenbot reduces operational costs while enhancing service experiences by communicating in a natural conversational method that can be tailored to reflect your brand. By coupling Citizenbot with Citizen Digital Identity, the AI can remember people



who are authenticated, learning and providing tailored services based on previous experiences. Capable of communicating in multiple languages and across multiple channels, Citizenbot streamlines your customer support, empowers your knowledge workers to find the resources they need, and accelerates your multi-channel user experience by integrating across multiple systems and channels. With connected services enabled by Citizen Digital Identity, proactive engagement with businesses can provide more seamless service. For example, if you need a yearly vehicle inspection, the AI can provide you a notification.

## Modernizing the government platform with Citizen Identity

Implementing Citizen Digital Identity promises assurance and flexibility in citizen transactions and services delivery. As digital cities and governments continue to develop, secure, robust connections between public institutions, citizens, and businesses are crucial to successful digital transformation—and Citizen Digital Identity must be the control plane. At Microsoft, we've developed our Smart Cities initiative with these goals in mind: empowering citizens, communities, and cities while unlocking the innovative potential of digital services.

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21  State of Aadhaar report, 2017–18, IDinsight.
22  https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Innovation/The%20value%20of%20digital%20ID%20for%20the%20global%20economy%20and%20society/Digital-ID-a-key-to-inclusive-growth-January%202019.ashx

# Developing your Citizen Digital Identity strategy with Microsoft Services

## The public sector digital transformation challenge

As we've shown, technology is transforming the way businesses and organizations run, including in the public sector. Today's citizens expect services to be available quickly, easily, and on any device. Successful Citizen Digital Identity is crucial to providing this capacity, but implementing a citizen identity platform can prove challenging.

Each public sector organization has numerous touch points with varying levels of security and validation requirements for their citizens that they need to consider. What seems simple— consistent, barrier-less interactions for citizens—can prove a complex challenge.

## Citizen Digital Identity: a vision for the future

Citizen Digital Identity promises a vision of improved outcomes for citizens and governments that is secure and private. With the ability to scale to hundreds of millions of users and handle billions of authentications per day, Citizen Digital Identity will keep citizens and governments engaged with 24/7 access to an omnichannel platform that improves outcomes for citizens by efficiently connecting them with government services and enabling improved navigation of and delivery of benefits. This improved citizen experience through single sign-on for multiple services can leverage multiple clients and facilitate migration of existing citizen digital identities through a self-service sign-up. Governments deliver services more efficiently with a unified view of their citizenry while providing stellar information protection, identity protection, and security.

✰✰✰ **The Future: Mastercard, Microsoft join forces to advance digital identity innovations**[23]

Currently, verifying your identity online is still dependent on physical or digital proof managed by a central party, whether it's your passport number, your proof of address, driver's license, user credentials or other means. This dependence places a huge burden on individuals, who have to remember hundreds of passwords for various identities successfully and are increasingly being subjected to more complexity in

23 https://news.microsoft.com/2018/12/03/mastercard-microsoft-join-forces-to-advance-digital-identity-innovations/

proving their identity and managing their data. Working together, Mastercard and Microsoft aim to give people a secure, instant way to verify their digital identity with whomever they want, whenever they want.

This initiative will serve as the foundation for new Mastercard services powered by Microsoft Azure and built-in collaboration with leaders in the banking, mobile network operator, and government communities. Microsoft and Mastercard are bringing together their respective strengths—Microsoft's expertise in identity technology and Mastercard's expertise in securely orchestrating digital interactions in a complex, multi-stakeholder ecosystem.

> " Today's digital identity landscape is patchy, inconsistent, and what works in one country often won't work in another. We have an opportunity to establish a system that puts people first, giving them control of their identity data and where it is used. Working with Microsoft brings us one step closer to making a globally interoperable digital identity service a reality, and we look forward to sharing more very soon. "

### Ajay Bhalla
President- Cyber and Intelligence Solutions, Mastercard.

With Mastercard, Microsoft is building the future of digital identity. As we continue to add in services and partnerships to our Citizen Digital Identity Hub, we're going to continue to enable the roadmap for business and government. By working with our identity solutions, you'll be the first to add Mastercard as and identity provider. Visit news.microsoft.com to learn more.

# Citizen Digital Identity Hub from Microsoft Services

We've designed Microsoft's Citizen Digital Identity Hub for Public Sector to solve the challenge of implementing Citizen Digital Identity. Citizen Identity Hub acts as a crucial underpinning for digital public sector services and is designed to accelerate the implementation of a consistent Citizen Digital Identity platform. Our strategy leverages Microsoft's global resources and experience, our expertise, and intellectual property to rapidly accelerate the transformation of services delivery and to help you realize value faster by enabling citizens to consistently and securely access digital public services.

## Simplicity in Access/Management

We work with you to help you realize excellence in your digital transformation and enable impactful citizen interactions through a single sign-on that improves usability. By reconstituting identity from existing providers such as social media, and enabling the creation of new digital IDs for the identity-less, we're empowering citizens and governments. Microsoft's Citizen Digital Identity Hub integrates with legacy systems and legacy identity to streamline processes and simplify access management while keeping you up to date.

This solution provisions different access levels for users powered by Azure Active Directory Business-to-Consumer(Azure AD B2C) in your organization and allows administrators to easily control the right level of citizen access to digital services through our simple access management. Services are available via multiple different devices and channels and the hub connects to existing systems such as Dynamics 365 and Office 365 to store citizen and business data - it's easy to see accounts that are registered and to reach out via the CRM system in a simple, standardized, and streamlined backend designed to make management easy.

We've also designed our solution with the future in mind, making it easy to expand and add in more services over time. Weutilize and reconstitute existing identities, including social and organizational for easy integration and further authentication. With 4000+ SaaS applications already integrated for Azure AD, Citizen Digital Identity Hub from Microsoft is ready to drive connected government services and the digital economy.

## Our approach to Citizen Digital Identity

In building a citizen identity and digital transformation strategy that is right for your organization, we've developed a phased approach designed to more quickly unlock the benefits of Citizen Digital Identity for your organization and your citizens.

### PHASE 1.  Why
We start by working with you to create a plan for the future and provide a proof of concept that it works. We help you build a business case and vision for Citizen Identity with a roadmap of digital services.

### PHASE 2.  Try
Implement, configure, and test. We help you build out your identity hub, deploy and configure Azure AD B2C in your tenant, and integrate it with our test application.

### PHASE 3.  Build
Live build, deploy, and training. We productionize and scale the solution, enabling you to launch and take it live to end-citizens, with training on configuration and maintenance.

### PHASE 4.  Scale
Integration of additional applications and services at your pace in a comfortable, and repeatable manner.

Throughout every phase of the process, we work with you to enable your organization to create capability rapidly, control spend, and demonstrate value.

✩✩✩ **Customer Reference:** Azure AD B2C helps New Zealand Ministry of Education solve its puzzle and launch a digital transformation[24]

New Zealand's Ministry of Education is the preeminent authority on all things education in this scenic island country in the southwestern Pacific Ocean.

The government department serves hundreds of thousands of students and educators, from early childhood schooling to higher and vocational education. It provides leadership, direction, and advocacy for the national education system, with research, legislative support, resources, and more.

But, over the past six years, the Ministry of Education found itself trying to solve its own technology puzzle. Its legacy-based IT system was seriously challenged in trying to maintain access for its 70,000 primary users to many of their mission-critical business applications.

24  https://customers.microsoft.com/en-us/story/new-zealand-ministry-education-azure-active-directory-b2c-saas-apps-unify-newzealand-en

> **"**The Azure AD B2C solution talks on identity provider side and uses the OIDC [OpenID Connect] protocol to do that. On the downstream side, B2C talks to those 24 business applications, using a standard 2-communication protocol. Those 24 biz apps use a non-standard version of that communication protocol. This means B2C successfully interprets each communication coming from each app, using the policy design component.
>
> That's the power of the solution for us. It supports the integration of legacy applications, in whatever state they are in, to talk to the new identity management component.**"**

### Patrick McKeefry

Project Manager, New Zealand's Ministry of Education

**MINISTRY OF EDUCATION**
TE TĀHUHU O TE MĀTAURANGA

Visit customers.microsoft.com to learn more.

**The Ministry of Education's IT upgrade project won the 2018 Public Sector Project of the Year Award, part of the Project Management Institute of New Zealand's annual awards for exceptional performance and project management.**

## Identity Management in the B2C environment

Azure Active Directory is our multi-tenant, cloud-based directory, and identity management service that combines core directory services, application access management, and identity protection into a single solution. It already provides authentication for more than 810,000 applications for our enterprise customers and now integrates with several Zscaler applications.

Azure Active Directory B2C[25] is our business-to-consumer identity management service. This service enables you to customize and control how users securely interact with your web, desktop, mobile, or single-page applications. Using Azure AD B2C, users can sign up, sign in, reset passwords, and edit profiles. Azure AD B2C implements a form of the OpenID Connect and OAuth 2.0 protocols.

With Azure AD B2C you can do everything from identity management via web applications to granting access from your application to APIs that you build. We also provide you with built-in policy controls for settings such as multi-factor authentication, data collected from citizens, and social accounts that citizens use to sign up for the application and which we use to redefine and stitch together identity. With Azure AD B2C we're solidifying and streamlining other identity solutions to provision access and enable services.

You can learn more about Azure AD B2C here.

## Why Azure AD B2C for identity?

**CASE STUDY:** Major Denmark railway helps 195 million passengers onboard with Azure AD B2C

A key reason why we use Azure AD B2C is for its the ease of integration with legacy systems and the ability to deploy it without additional dev resources. The solution was easy to deploy, so Erichsen's team could deliver on its compliance priorities while fulfilling their desire to provide customers with a better experience.[26]

Azure

25  https://docs.microsoft.com/en-us/azure/active-directory-b2c/active-directory-b2c-overview
26  https://customers.microsoft.com/en-us/story/dsb-travel-transportation-azure-office365-m365-denmark

**"** It's a huge benefit that it's a SaaS, and it's not something we're developing ourselves. When you're trying to implement different applications from different vendors, it's a huge pain and takes a lot of time, testing, etc. Here, we have something that's standard that we know how to integrate. **"**

### Stefan Lissau Erichsen

Head of IT Sales Systems, DSB

**DSB**

Another advantage of Azure AD B2C is the seamless ease of use with Dynamics 365 CRM and EpiServer CMS for connecting customer data. Because of this tight integration, DSB is equipped to build other additional apps in the near future. One solution DSB intends to create is tied to its CRM that features more personalized offers. The offers could include 7-Eleven store vouchers, bonus points for ticket fare, and premium seat reservations. In the future, the company could also offer incentives for partner offerings, such as hotel stays. It also plans to offer customers incentives for creating a profile, such as coffee and croissants.

Visit customers.microsoft.com to learn more.

## Why Microsoft Services?

We tailor our approach for each organization—providing guidance and expertise in the areas that are most important to you. With Microsoft Services as your partner, you'll have full access to our expertise in the Microsoft portfolio and our capabilities as well as those of our global network of professionals and partners. We are accountable for our solutions for the long term. We are flexible, working for you, and we have proven results that demonstrate our ability to lead change and deliver on our promise—to empower you to accelerate the value you imagine and realize from your digital experiences. We understand the challenges you're facing and the products and services you use better than anyone; we built many of them.

**"** Although Microsoft Services consists of technology experts, they put the articulation and prioritization of our business goals first, not only to understand those goals themselves but also to ensure that, as their client, all of us were all on the same page about those goals. **"**

### José Ángel Sánchez

CEO, Real Madrid

## Empowering organizations for what's next

Microsoft Services experts are on the leading edge of technology trends, providing thought leadership to help you develop innovative solutions for your organization. Trusted by the world's largest businesses and governments, our highly trained experts integrate decades of industry learnings, understanding of geographic constraints, and depth of knowledge of your organizations business needs to deliver exceptional service. Microsoft Services digital advisors, architects, engineers, consultants, and support professionals help you implement and adopt Microsoft products, services, software, and devices to solve, envision, and understand new possibilities for your business. We bring industry-leading knowledge of Microsoft products and how to secure your organization.

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# Take the next step

To secure your identity environment, Microsoft Services has developed a free 1-day Identity Modernization workshop designed to develop a secure modernization outlook for identity posture and start you on the journey to successful digital identity. In this workshop we:

- Discuss your top business priorities and concerns

- Evaluate your current Identity posture at a high level

- Determine where Microsoft can help modernize and secure your identity infrastructure and develop a prioritized list of security/identity initiatives to bridge any gaps

By working with Microsoft to implement our Security & Identity offerings, we drive immediate value for your organization and help with crucial attack mitigation.

***When will you invest in a safer future?***

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Microsoft Services empowers organizations to accelerate the value realized from their digital experiences.

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# Realize.
# Experience.

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