



# Digital Nations: accelerating progress, delivering results.

Digital technology is fantastically transformational when embedded deeply into the infrastructure and services that underpin everyday activities. No wonder governments around the world are keen to accelerate national digital initiatives, says Nicola Villa of Cisco Consulting Services.

Many national governments are talking purposefully now about digital transformation programs.

Yet turning these big visions into practical change (with benefits that can start to be realised in the short term) is proving more of a challenge than they anticipated. Pioneering Smart City projects have provided an insight into what's possible, but to date advances have been largely restricted to pilots – around more intelligent management of energy use, street lighting and traffic flow, for example.

To reap the real benefits on a national scale, governments need to be more aggressive in their strategies. The global economy remains fragile of course, so countries need to be smart in the way they co-fund initiatives – making resources go further, creating new operating models for public service provision, and forming new types of service partnership centered on new technology consumption models.

## Whatever your starting point, it's time to get off the blocks

Developing nations may appear to have the most to gain from digital transformation. That's because they are starting from a point of greater contrast, and have an opportunity to use digital connections to distribute expert knowledge, education and healthcare on a large geographic scale – in many cases for the first time.

Yet in more developed regions such as Western Europe, next-generation digital connections and services have equally powerful transformative potential. As well as bringing people, processes and data together on an unprecedented scale, becoming a 'digital nation' creates new opportunities for GDP growth, job creation, and service innovation.

## From Smart Cities to Connected Countries

Barcelona, Copenhagen and [Nice](http://cs.co/Nice) (<http://cs.co/Nice>) are cities with relatively advanced Smart City infrastructures. They are reporting savings worth tens of millions of dollars annually from smarter water management, increased parking-fee revenues and other opportunities driven by Internet of Everything (IoE) connectivity. They have also created tens of thousands of new jobs since embarking on their initiatives to transform the cities through intelligent, digital connections.

Those innovations are now being scaled across entire countries. The French government, for example, has embarked on an aggressive digital development program (see [http://cs.co/Blog\\_France](http://cs.co/Blog_France)), and has developed a multi-layered, five-year acceleration plan in partnership with Cisco. One of the incremental initiatives involves increasing the number of digital academy places for students from 35,000 to 200,000 – to train the next generation

of IT experts in relevant skills such as networking, integration, infrastructure design and data science, so that France has a fit-for-purpose talent pool and a generation of students who will have good jobs to go to.

Another initiative will encourage relevant research, and a pledge from Cisco of \$100 million in venture funds to support growth of French technology startups. Additional plans include innovation center programs – one to accelerate Smart City rollouts across France, another to develop French cybersecurity solutions, with others to follow.

To ensure that these plans are joined up and have national impact, they are being driven from both a top-down and bottom-up perspective. They also harness strategic partnerships, which Cisco is helping to broker.

## Redrawing boundaries

Creative collaborations will help to drive not only accelerated developments, but also new operational models that create substantial savings for the public wallet. Connected into IoE, intelligent monitoring of water systems could help reduce water leakage by up to 60%, for example. Meanwhile, connected assets could help spawn new value-added services, such as leveraging street lamp posts as free Wi-Fi points, and for mounting sensors to collect environmental and traffic flow data.



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From garbage collection and postal delivery to intelligent parking management, greater digitisation and connection of assets means less reinvention of the wheel, more efficient use of resources, and the basis for all sorts of new service innovation – redefining the roles played by infrastructure, utilities and service providers.

### The embedded role of the network

The enabling technologies include next-generation broadband; high-speed mobile; secure, resilient and intelligent network infrastructure; and big-data analytics.

A digital nation, by definition, is a connected nation – able to share information and intelligence dynamically, in real time or something very close to that, across a network. But the sheer scale of data it then becomes possible to collect is overwhelming. Research conducted by Cisco Consulting Services found that data management was the highest-ranking issue for organisations wishing to exploit the IoT. ([http://cs.co/IoT\\_whitepaper](http://cs.co/IoT_whitepaper)) This vast influx of data also risks network congestion.

Among the more advanced developments here is technology that allows operational analytics to be performed at the edge of the network, where the data comes in. So, for example, intelligent traffic light systems can interpret and react to their own readings, without having to send information back for analysis on a central data center server. We call this fog computing.

### Starting in your own back yard

These are the bigger goals that governments, non-government organisations and private sector partners should have in their sights. But it is important that digital transformation happens from the inside out, as well as from the outside in. One of Italy's ambitions is to simplify the interface

between its citizens and state services. Rather than have 50.000 different touchpoints through which the public can engage with the government at its various levels to submit information, make claims or complete transactions, the aim is that this should all be achievable via a simple mobile app.

At the back end, this requires the re-engineering of numerous cross-agency processes, driving true digitisation of the public administration. The potential rewards are huge. Digitisation will allow the government to optimise pension systems; process employment and benefits administration 'just in time'; and put savings back into the economy in the form of lower taxes.

But the first objective must be to digitise the administration – ministry by ministry, agency by agency.

### Getting help

One of the advantages of working with partners like Cisco is our experience in helping organisations of all sizes, countries and cities to develop a practical roadmap – one that builds on existing investments towards delivering powerful but affordable change, bit by bit.

Our experience includes direct knowledge of how those entities are approaching the same challenges, from which we have distilled best practices, playbooks and digital transformation roadmaps.

Having a vision for a digital nation is only one part of the story; the other is finding a way to start executing the plan in a way that starts delivering results sooner rather than later.

Practical steps should include:

- Embracing digitisation as a political imperative, and at a policy level;
- Combining the need for broader reforms with practical public sector

efficiency drives, built on digital initiatives approached iteratively;

- Developing the necessary infrastructure capacity to cope with the fast-growing volumes of data now available for collection and analysis, as more assets and services are digitised and connected to the IoT;
- Creating regulatory frameworks such as for security or technology interoperability – that are modern and fit for purpose, and that allow for interaction between infrastructures;
- Promoting and investing in the development of new skills;
- Stimulating entrepreneurship and innovation, through an open innovation approach based on rapid prototyping, based on the concept of 'hackathons';
- Partnering with an extended, diverse ecosystem of partners – private and public – who have a potential role to play.

### Exporting expertise

Countries that forge ahead have much to gain, not only for their own citizens and internal efficiency, but also for their economy. Large numbers of French entrepreneurs and startups are already busy generating innovative Smart City applications and services that will not only be a key enabler for digital transformation, but could be exported to the rest of the world.

France is far from alone. Hot on its heels are the UK and a growing number of national governments, all of which are announcing national digital transformation acceleration plans this year in partnership with Cisco.

### The race is on.