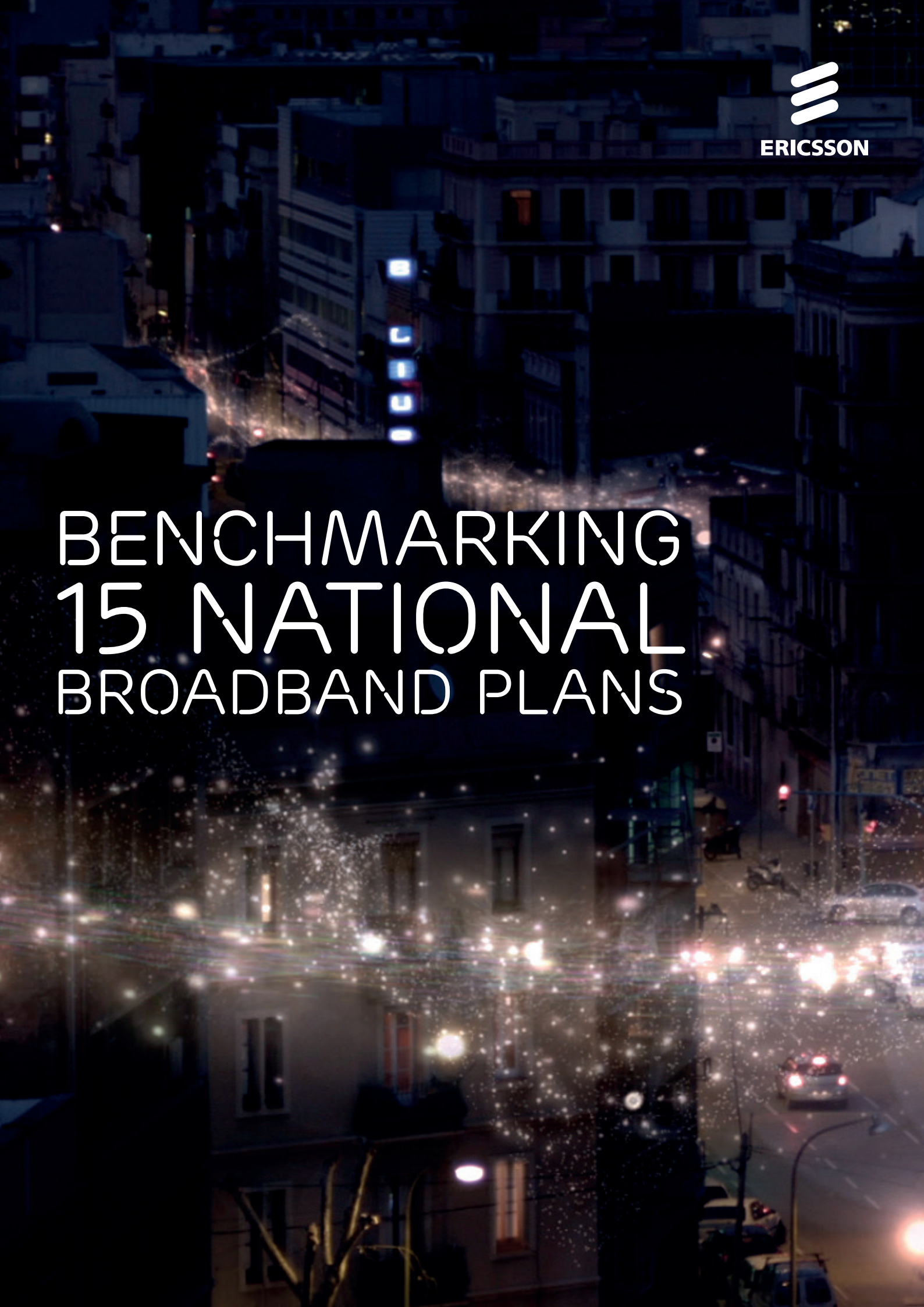


ERICSSON

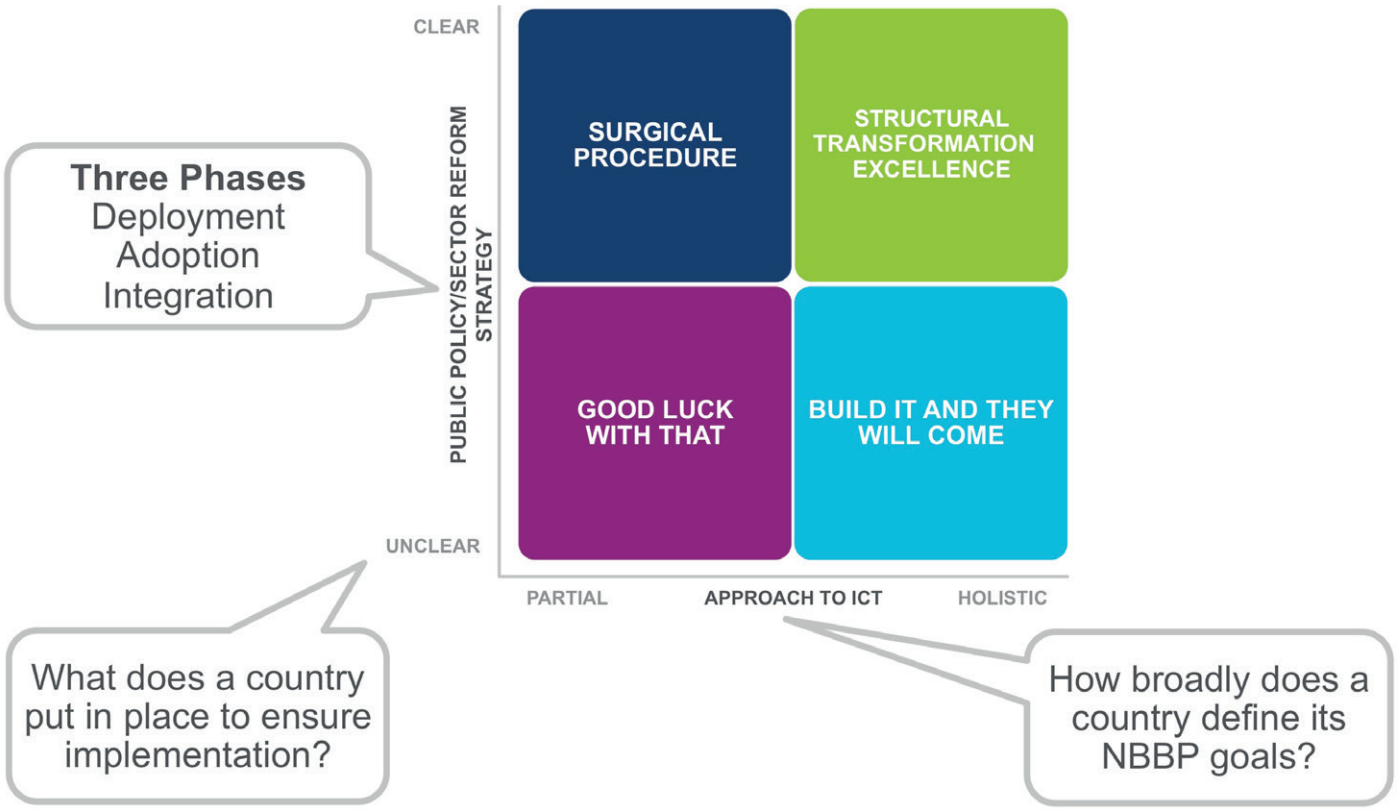
BENCHMARKING 15 NATIONAL BROADBAND PLANS

CONTENTS


LG
10
5

INTRODUCTION

Figure 1. Approach to ICT and public reform policy strategy



This study examines national policies and practices in respect of broadband development across 15 countries worldwide. The aim of the study was to compare best practice and knowledge across countries' national broadband plans (NBBPs), with particular regard to:

- The formulation of supply side and demand side policies within NBBPs – the ambitions that have been expressed for private and public sectors, and how narrowly or broadly these aims have been set out.
- The level of detail and quality of the NBBP goals in terms of specific targets, regular performance monitoring and specific KPIs.
- The measures that have been specifically put in place to ensure successful implementation of the NBBPs, including the resources made available and specific organizational infrastructures.

Coverage

The research covers 15 countries across five global regions, examining both large and small countries, and countries with a range of economies and at different levels of broadband development.

Sources

The main source documents examined by Cullen International are listed in the appendix to this report. A range of other publications and statements, and Cullen International's own regulatory database were reviewed, as well as the use of telephone and face-to-face interviews to supplement and confirm information obtained in the research.

Cullen International used an analytical approach developed by Nagy K. Hanna[1] and adopted by Ericsson that relates the wider national reform strategy with the government's reform approach to ICT and the degree of fit between these two (see Figure 1).

Using this approach, we examined:

- how broadly a country defines its ICT agenda in NBBP and other related ICT plans
- the level of fit and integration between ICT reform agendas and public reform policies concerning sector reforms.

Table 1. Coverage of surveyed countries

REGION	COUNTRIES COVERED
Europe	Croatia, Finland, France, Sweden, UK
Latin America	Argentina, Brazil, Chile, Costa Rica
Middle East	Qatar
Asia Pacific	Australia, Malaysia, Singapore, South Korea
Africa	South Africa

1. Transforming Government and Building the Information Society: Challenges and Opportunities for the Developing World – Innovation, Technology, and Knowledge Management, Springer, 2010

SCOPE OF PLANS

The initial assessment of countries' NBBPs was to review the scope of their plans in three dimensions:

- Reach: how ambitious the plans are in relation to the current national situation (stretch targets or safe targets)
- Breadth: how wide-reaching the plans are; the aspects of broadband and ICT that they cover; the number of sectors of the economy that are included
- Depth: how specific and detailed the plans and the related implementation measures are, and if the goals stand a realistic chance of being achieved.

Findings

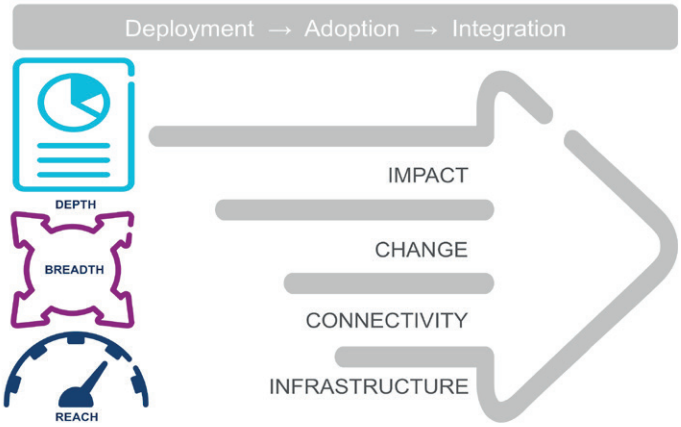
Applying the analytical model to the dimensions examined for the scope of the NBBPs reveals that:

- A more ambitious plan can deliver more – a stretch target can be inspirational (even if achievement falls short of the goal, the change could still be significantly positive).
- Ambition concerns breadth as well as reach – the wider the scope of a plan, the more likely it is to have an impact on a country's overall economy and society.
- None of the above matters (however ambitious) if the targets are not clearly defined, with robust plans and good organization to ensure their implementation, monitoring and success.

An additional consideration is how the scope of the plans correlates to the different stages of broadband/ICT development that each country undergoes. This is not always a straightforward linear progression, but the pattern of development is clearly visible.
The development stages can be characterized as:

- Deployment: building the physical ICT infrastructure that will form the basis of the new broadband/ICT economy and society.
- Adoption: connecting and equipping consumers, companies and other organizations with the capability such as relevant ICT human capital skills to take advantage of the benefits offered by the ICT network.
- Integration: transforming the way the economy and society operate to create an integrated new digital model, providing greater opportunities for commerce, private interactions and public sector performance.

Figure 2. Scoping NBBP for maximum impact.



All of the countries' NBBPs contain goals in each of the three areas – infrastructure (supply-side), adoption and integration (demand side impact). However, this does not mean that all plans are equally ambitious in terms of reach, breadth and depth. In particular, the degree of focus on integration varies considerably within the different plans.

For example, we can compare the types of goals set in the NBBPs for South Africa, France and Finland. For South Africa, the goals are largely focused on the country's supply-side aims to provide broadband coverage nationwide. As a result, even sector-specific goals are really targeted to supply-side solutions,

such as the provision of broadband access in schools, hospitals and government offices. For France, which already has high levels of broadband connectivity, the plan contains targets to ensure that broadband is rolled out to rural areas. However, there is also a range of demand-side goals to ensure the availability and take-up of ICT tools across a number of different sectors. In Finland, which has made significant progress in terms of ICT development, the plan is almost totally focused on demand-side initiatives to embed technology more deeply into society and the economy. These initiatives include service productivity, tools to ensure the elderly can also benefit from ICT, and the provision of support systems to ensure that using ICT is made as easy as possible for everyone.

We have observed that in some countries, local factors can lead to targets being set to address specific questions. For example, in Qatar, which has a high population of migrant workers, the NBBP contains targets for the provision of e-government services via mobile phones, so that these are more easily accessible for migrant workers. Local factors can also influence which areas are excluded from NBBPs. In Singapore, for example, there are no e-government targets because this sector has already been extensively developed in the country's previous digital plans. In the UK, there are no central national targets in the health sector, at least in part because the health sector is a devolved regional responsibility.

Conclusions

Countries at different stages of ICT development tend to have different priorities and scope for their NBBPs. Countries in a relatively early stage of ICT development tend to focus on infrastructure availability and measures to encourage adoption and internet take-up. On the other hand, countries in a relatively more advanced stage of ICT development are more likely to have a greater focus on demand-side initiatives and qualitative issues, such as security and privacy.

Local contextual factors can also be highly influential in the scope of NBBPs. For example, countries that have already achieved significant ICT integration in key sectors (sometimes as a result of previous NBBPs) do not necessarily need to continue to focus on these sectors. In other cases, the governmental or organizational framework of a country can lead to broadband initiatives being structured as local or sector plans rather than as an overarching national plan.

While, at face value, all NBBPs seem to cover all levels of ICT targets (deployment, adoption and integration), in practice, the scope of the plans varies considerably, particularly in the breadth and depth of demand-side targets and implementation.

TARGETS

In this section, we discuss the approach taken to setting targets within NBBPs, and how this can affect the focus of the plans and ultimately their implementation. We will then look more closely at the different types of targets, the sectors in which targets have been set in the national plans in this report, and examine the details of the targets themselves.

Findings

Many countries appear to have embraced the accepted principles for setting targets, which, broadly speaking, can be encapsulated in the SMART criteria. In other words, the targets should be:

- Specific
- Measurable
- Achievable
- Relevant
- Time-bound.

This is a logical and defensible approach. It makes sense that poorly defined, unclear, overambitious and unmeasurable targets are unlikely to lead to great success. However, the SMART approach also has limitations, and these are also important to consider.

An excessive focus on metrics, particularly in terms of a country's relative performance in international "league tables," can create a blind spot for softer, more qualitative aspects of ICT development. Taking a large number of actions and "ticking broadband boxes" may not be enough to progress toward the optimum level of social and economic transformation. The softer, qualitative aspects are often crucial in the realization of a deep-seated integration of ICT into society and into the economy of a country.

The more preferable approach may be for an NBBP to contain a combination of hard and soft targets, to mix the specific and measurable aspects with more visionary and qualitative goals. A country adopting this combined approach may sacrifice the achievement of being ranked highest in international league tables but may be happy to forgo this for better overall progress toward a fully ICT-integrated society and economy.

Different types of targets

Targets can be categorized as:

- Overall targets, setting a high-level goal for a country's broadband progress.
- Supply-side targets, focusing on the provision of broadband infrastructure and the take-up of internet use among the population.
- Demand-side targets, which aim to encourage the wider use of ICT and driver a deeper change among specific social and economic sectors in a country.

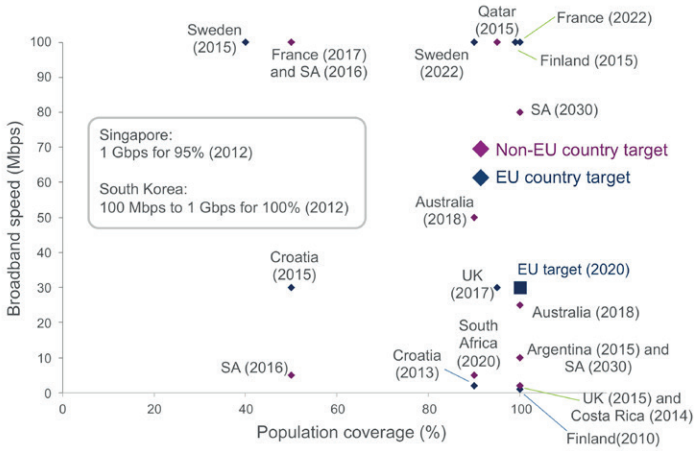
Overall targets

Not all countries set overall targets but, for those that do, the targets are (as we might expect) broad in their aims and often driven by political goals. Measurable and non-measurable targets are set at the overall level for the countries covered in this report.

The implementation structure for overall targets is generally light or even non-existent. By definition, such targets set an overall goal for the plan (at best) or seemingly exist to grab political headlines. The exception is for those countries where the overall targets form the top of the pyramid of a "master plan," where the whole organization of the NBBP is clearly designed to deliver the overall targets.

In Singapore, the overall goal of the current version (the sixth) of its "Intelligent Nation" master plan is to make the country No. 1 in the world in harnessing ICT to add value to society and the economy. Underlying this high-level aim are some specific overall targets, including doubling the size of the added value of the Singaporean ICT industry to SGD 26 billion (USD 20 billion), to create 80,000 additional jobs and to have 100 percent PC ownership in homes with school-age children.

Figure 3. Broadband infrastructure targets.



Supply-side targets

Supply-side targets typically aim to ensure the physical network infrastructure is in place to deliver high-quality broadband access to the whole country or large parts of it. These kinds of targets are normally highly specific and measurable.

The measures cover:

- The coverage of broadband networks – often with a particular focus on hard targets to reach rural and remote areas.
- The backbone network required – to support and feed the access network.
- Technical criteria – especially for the minimum download and upload speeds that the network should be capable of delivering.
- The technology that should be deployed – particularly whether mobile and satellite technologies form part of the mix of access technologies.
- Enablers – to help facilitate the rollout of broadband networks, in particular measures to ensure speedy planning permission.

In most countries, governments set the targets but then rely mainly on private-sector investment to deliver the infrastructure. The governments' role in such cases is largely to facilitate rollout through enabling measures and often to provide public funding for broadband coverage only in non-commercially viable areas.

In a few countries, governments play a more direct role in the issue of network infrastructure, by defining the requirements of a new national broadband network and taking a major role in the delivery of the network through direct public funding, ownership or a private finance initiative.

In Australia and Qatar, governments have decided they need to directly control the provision of the broadband network through the funding and rollout of a national (largely) fiber infrastructure. However, in Qatar's case the government was in the process of selling its national broadband company to a private operator while this report was being produced. In most other countries, provision of the network infrastructure is left to private network operators but is subject to government targets, including minimum standards in terms of coverage and performance (particularly download speeds). There is a mixed approach across the countries regarding how the plans aim to achieve these targets – sometimes the targets are almost purely aspirational but more often the government plays a role, in particular by funding network rollout in rural and hard-to-reach areas. In a few countries, such as Finland, achieving network infrastructure targets is supported through regulation, where the supply-side targets are set out in the universal service obligations.

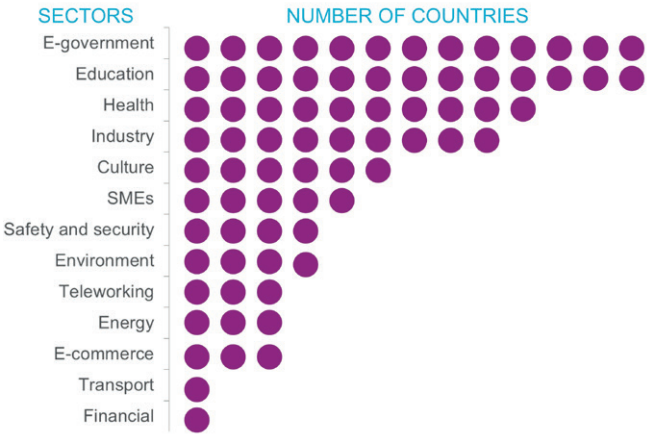
Internet adoption

The issue of internet adoption is closely related to that of network infrastructure, and is also commonly dealt with in NBBPs, including in most of the countries covered in this report.

In several countries, special targets have been set that cover a range of areas regarding internet adoption. These targets include:

- free access to the internet in specified public areas via Wi-Fi
- internet access included within the universal service obligation
- special measures to ensure the elderly have internet access
- fiscal incentives to reduce the cost of devices and internet access
- special measures to ensure that internet access is available in rural areas.

Figure 4. Demand-side targets



Demand-side targets

Demand-side targets have been set in a range of sectors in the countries covered in this report. Some sectors are particularly prominent across most countries' NBBPs. In particular, these are targets set for:

- e-government
- education
- health.

In both this section and the following section on implementation of the plans, we focus on these three sectors, taking a closer look at examples from selected countries' plans for each of these demand-side sectors.

E-government

In general, we class e-government targets as those that aim to increase the use of ICT within government departments, in particular where this has an impact on the type of interaction between a government and its citizens. Examples of types of targets include:

- making more government information available online
- connecting the offices of government departments with broadband links both for improved internal (intra) and external (inter) communications
- migrating government communications with citizens from physical letters to e-mails
- enabling citizen interactions with governments to be performed online
- providing citizens with secure online government identification to facilitate online government transactions.

In many countries, such as South Korea, targets for e-government are specifically set out, including the provision of particular systems such as an e-procurement service for dealing with online tax returns. This is a common approach. In other countries, such as the UK, the targets are expressed in more general terms in the NBBP, to make government "digital by default." Each government department is then required to develop its own plan with specific goals that it will try to reach.

Education

Educational targets are those that aim to increase the availability of ICT tools within educational establishments and to ensure that ICT skills are taught systematically. Examples of types of targets include:

- ensuring that schools and other educational establishments are provided with high-speed broadband connectivity
- providing (or subsidizing) IT equipment for schools and students
- providing skills and technical training to students


MAVIC

to enable them to use ICT and to work in digital industries
- establishing and provisioning online courses; in other words, using ICT as a tool in the educational process.

Educational goals are common across the countries covered in this report. In Costa Rica, for example, there is a strong focus on connectivity, reflecting the general approach of that country's NBBP. Broadband access at given speeds is to be provided to schools and to higher education facilities by specific dates. Other countries, such as Australia and Malaysia, go significantly further, extending their plans' targets to cover the educational approach (delivering courses through ICT tools and e-learning), the curriculum (making ICT a compulsory element), and providing equipment and training for teachers and students.

Health

Health targets aim to increase the efficiency and expand the reach of health care. Examples of types of targets include:
- connecting hospitals and clinics with broadband links, mainly for improved internal (intra) communications
- digitizing health records to enable quick and easy access for health professionals
- using ICT to enable the establishment of clinics to serve citizens living in remote locations
- providing health care by means of ICT (telemedicine).

The ability of ICT tools to assist in the provision of improved health care services is well illustrated in Brazil, with its goal to provide more e-health centers to cover the country's population and the development and increased use of telemedicine. In a country of Brazil's size, harnessing the benefits offered by technology could be critical in ensuring that the whole population can enjoy even the most basic levels of support and care. However, ICT initiatives in the health care sector are widely recognized across the countries in this report. This is especially true in France and Sweden, where the digitization of medical records and improved information-sharing among medical practitioners

Countries tend to adopt targets in their NBBPs that are specific and follow the SMART principles

are seen as being highly beneficial to efficiency and improved patient care.

Conclusions

Countries tend to adopt targets in their NBBPs that are specific and follow the SMART principles. This is an understandable and effective approach that allows for clarity of purpose and the measurement of progress. However, this is only part of the process to develop a fully integrated ICT economy and society. To achieve the full level of integration, attention should also be paid to softer, qualitative targets that broaden the scope of the plan to describe how ICT can be embedded into the social and economic fabric, dealing with key issues such as security, privacy and ease of use.

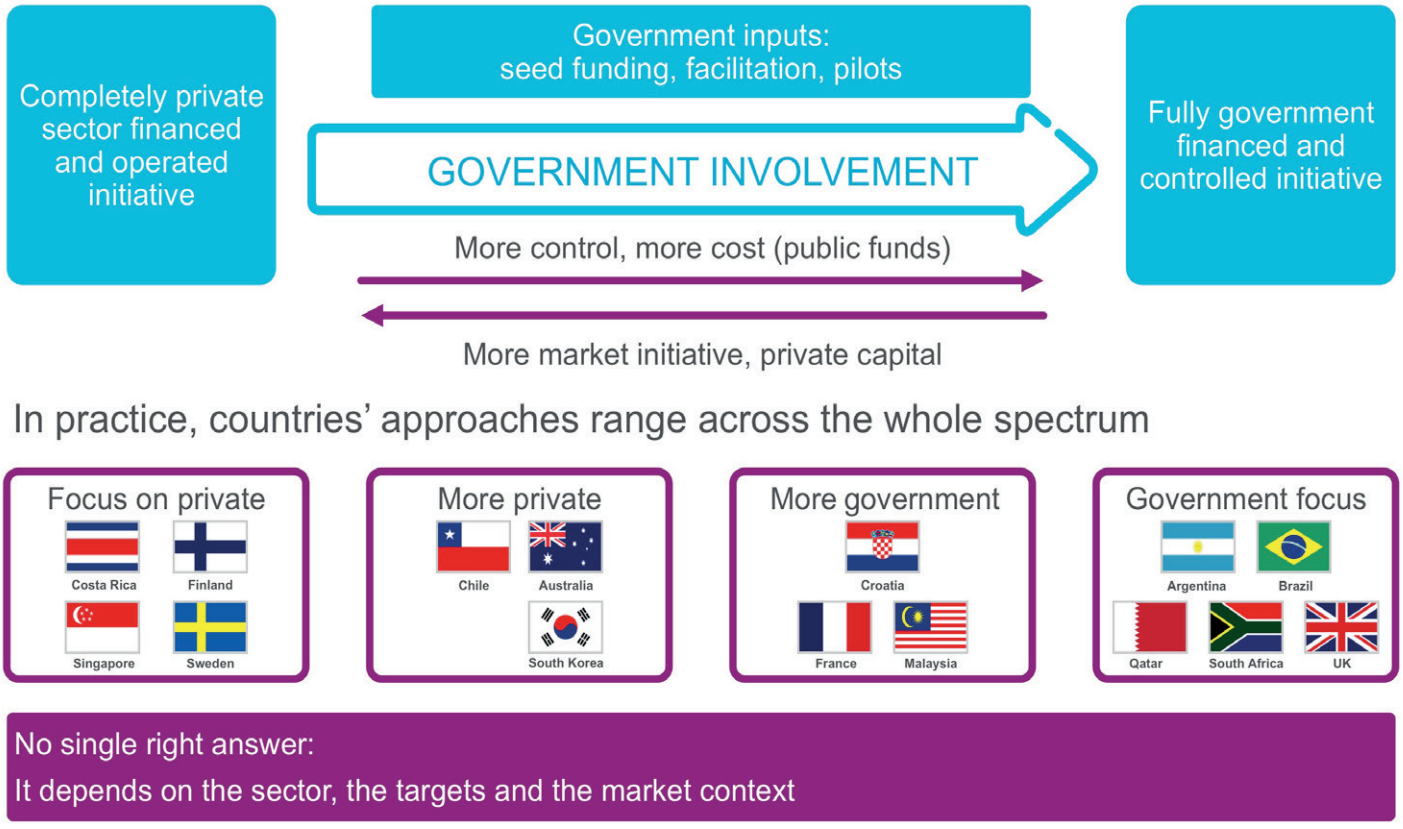
Countries set three types of targets. Some set overall goals for their plans but these can often be highly politicized and rather broad in aim. All countries set supply-side and demand-side targets, with the targets' area of focus often reflecting the stage of ICT development in the country.

Supply-side targets tend to be technical and measurable, including infrastructure provision, internet access and adoption.

Demand-side targets are significantly more variable both in scope and by type. They can cover a wide range of different social and economic sectors and, while they can be measurable, they are often more qualitative in nature.

IMPLEMENTATION

Figure 5. Implementing NBBP – government action – different approaches



This section reviews the approach that the countries in this report have taken to manage the implementation of their NBBP, examining:

- the extent of direct government involvement, including financing
- the different ways in which the government can be involved
- how progress is monitored
- whether plans are in place to deal with delays.

Findings

There is a range of possible approaches (see Figure 5) regarding the most appropriate or most effective role for government action, ranging from national plans that are fully funded and directly operated by government agencies to plans that rely entirely on private-sector funding and operation. The approach adopted can reflect the underlying political or philosophical framework in a country rather than an objective consideration of what could be most effective in achieving the NBBP aims.

However, in the countries covered in this report, we have observed a trend where plans do not fall into either of these extreme cases; they usually have a mixture of private and government funding and private/public interventions instead. Within this middle ground, the type of government input can also vary widely, from direct action to interventions more designed to stimulate further action from the private sector, including promotional and educational activities, pilot projects and seed funding.

Table 2 Case study: Brazil and UK

	Brazil	UK
Scope of national plan	Wide-ranging plan, covering infrastructure supply, adoption and demand-side initiatives.	Mainly on supply side (infrastructure goals), with some e-government targets.
Supporting measures	Several new laws, decrees and programs to define and ensure delivery of the varied targets.	Regulations to facilitate network rollout (changes to planning and development rules).
Management	Responsibility: Lead responsibility originally with a specially organized national committee but this was disbanded. The responsibility for coordination now lies with the ministry for communications.	Responsibility: Lead responsibility lies with the ministry for communications.
	Financing: Direct government funding for many aspects of the plan: infrastructure rollout; fiscal incentives to provide low prices for equipment and access; and demand-side programs.	Financing: Funding targeted to specific supply-side elements of the program and designed to stimulate additional private investment.
	Organization: Largely decentralized with each responsible ministry running the program within its sector.	Organization: New body established to drive delivery of supply-side targets. For e-government, each department is required to produce its own plan.

Table 2 compares summarized versions of the plans for Brazil and the UK, which have adopted different approaches to setting their NBBPs, particularly in terms of scope and the role of the government.

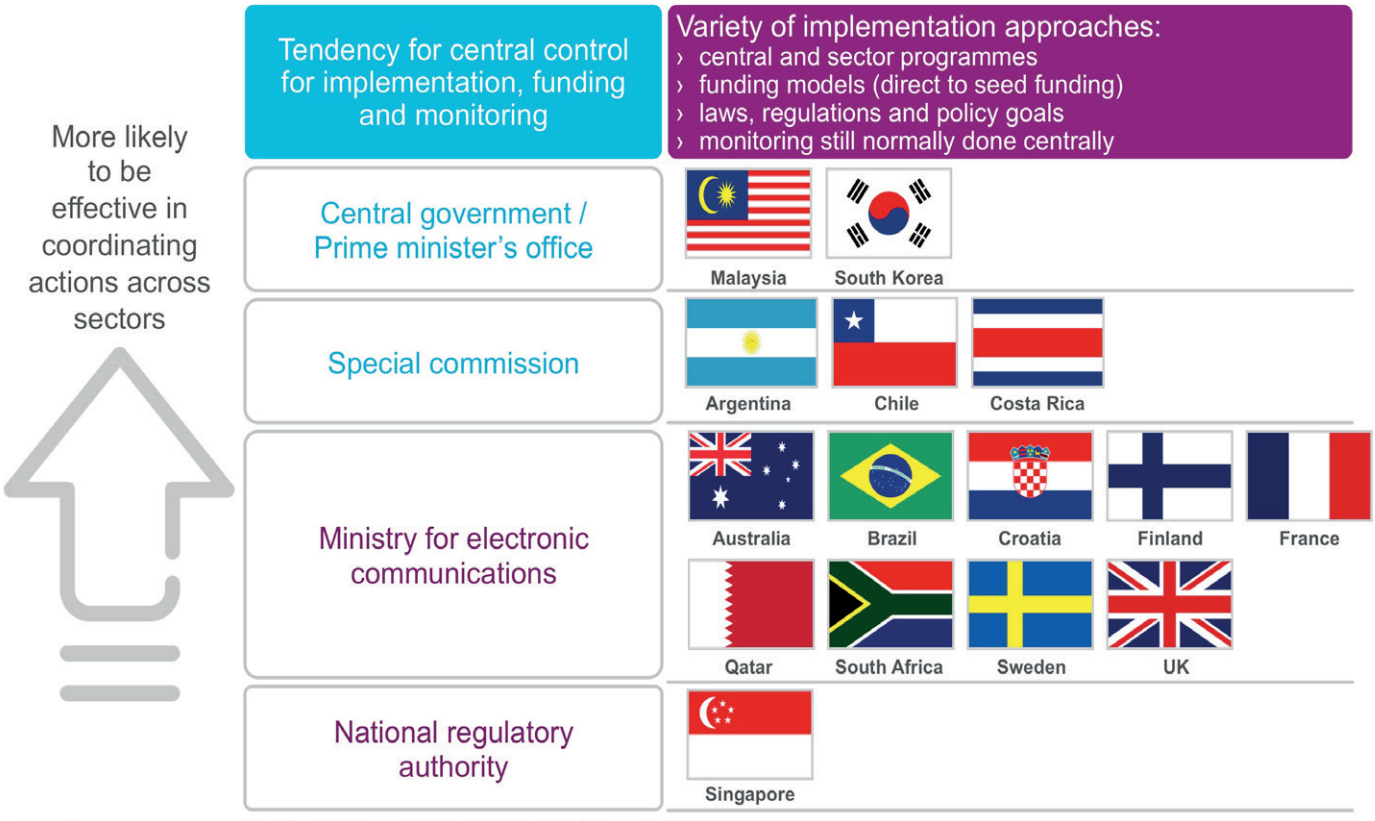
It may, however, be overly simplistic to think that countries adopt only a single approach to the level of government involvement. In some countries, there is strong direct government involvement in some aspects of the NBBP, but not at all in others. In Australia, for example, we have observed that (prior to the current 2011 plan) the focus was very much on building the network infrastructure, and that this focus was clearly driven by a central government. Subsequently, the need to stimulate demand has led to a more diverse approach, with a series of initiatives that aim to facilitate and encourage both public and private sector interventions.

Organization

The countries also differ in terms of their organizational approach. We have observed that some countries take a centralist approach, with one ministry (or other body) responsible for running an integrated central plan covering several sectors. An alternative approach is to have a series of plans for each sector, (see Figure 6) overseen by the relevant government body. In this case, the key question in terms of meeting the overall targets in the NBBP is the extent of coordination between the separate responsible bodies.

If we compare the approach in South Korea with that in Singapore, we see that the South Korean approach is highly centralist with a single ministry responsible for delivering the central master plan. Within this master plan, there are overall targets and integrated cascading sector targets. Singapore has a series of different plans

Figure 6. Organizing implementation of NBBP



by sector, each driven by a different government body. Integrating these separate plans is done in reference to the overall plan, and is managed by the communications regulator and the economic performance unit.

These organizational arrangements also reflect the different roles required for an NBBP to be well managed. In all cases, a plan requires clear political will and visible commitment from the country's leaders that it is of national importance and will be supported. This is essential – though not in itself sufficient – to ensure success.

An NBBP also requires operations to be organized on a working level. Someone has to manage the specific details of each initiative and ensure the planned actions are carried out. Finally, someone needs to take overall responsibility for coordinating and driving the series

The approaches taken include both direct government funding and government actions, to a much lighter government role with more reliance on private funding and commercial initiatives. In this latter situation, the government's role is usually to stimulate private interventions through seed funding, piloting and public.

of different detailed plans to ensure they are coherent and all work together to achieve the overall NBBP objectives.

This third coordinating role is critical to the management and implementation of the plan. If this role is not handled effectively, there is a significant risk that targets will not be met or that separate initiatives fail to be connected in a way that creates genuine progress toward achieving the plan's goals.

We observe that in the countries covered in this report, the central coordinating role is often taken on by a single government body, most commonly the ministry responsible for communications issues. In some cases, the role is played by a body that has been especially created for the purpose (a special commission such as in Argentina or a part of the prime minister's office, as in Malaysia); this action in itself is a visible signal of the importance of delivering the NBBP.

Conclusions

A variety of approaches are taken for the role and level of government involvement in managing NBBPs. The approaches taken include both direct government funding and government actions, to a much lighter government role with more reliance on private funding and commercial initiatives. In this latter situation, the government's role is usually to stimulate private interventions through seed funding, piloting and publicity.

The government's critical organizational role lies in the central coordination and monitoring of the detailed actions required by the plan's goals. Most often, this coordinating role is given to the ministry responsible for communications.

TRACKING

Figure 7 Monitoring Progress

Country	Planned	Body	Publication	Interim targets
Argentina	✓	✓	✗	✗
Australia	✓	✓	✓	✗
Brazil	✓	✓	✓	✗
Chile	✗	✓	✓	✗
Costa Rica	✗	✗	✓	✗
Croatia	✓	✓	✓	✗
Finland	✓ (and review)	✓	✓	✓
France	✓	✓	✓	✓
Malaysia	✓	✓	✓	✓
Qatar	likely	likely	?	✗
Singapore	✓	✓	✓	✓
South Africa	✓	✓	soon	✓
South Korea	✓	✓	✓	✓
Sweden	✓	✓	✓	✓
UK	✓	✓	✓	✗

One of the critical roles for the central coordinating body is to monitor progress against the goals of the plan.

Findings

All countries seem to recognize the importance of monitoring progress as a means to verify that the planned actions are being taken and are effective. Nearly all of the countries covered in this report had some form of monitoring progress towards the NBBP targets with a clearly defined body to undertake the monitoring. Even where a specific monitoring platform is not envisaged, such as in Chile and Costa Rica, the regular reports from the communications ministry or from the national regulatory authority often provide robust insights into many elements that make up the NBBP.

Publishing the results is also an important element to ensure transparency and to instill confidence that the plan is being implemented effectively. Almost all the countries in this report have published (or plan to publish) the results of their monitoring.

However, there is a more diverse approach to one further element in ensuring progress towards the plan's goals, namely the setting of interim targets. Such targets are particularly important when the goals are ambitious (the stretch goals previously discussed in the Scope section); if it becomes apparent only near the end of the target period that a goal will not be met, it may be too late to take remedial action. Despite this, only about half of the countries in this report systematically set interim targets.

In some countries, such as Australia and Sweden, an interim review of progress toward the desired plan goals has been conducted. As a result, additional targets were set, both to rectify perceived underperformance and to identify and exploit additional opportunities.

A similar structure can be observed in some other countries, such as in Croatia, where the NBBP sets out broad overall goals, which are further specified in subsidiary implementation plans (every one or two years). This approach allows for adjustments to be made to the initiatives and activities, so the achievement of the plan's targets can be matched with the level of current success and take into account new market or sector developments.

OVERALL OBSERVATIONS

The review of the 15 countries covered in this report, their NBBPs and the management of these plans have revealed a wide range of approaches and results. Having a local context, in terms of both the current stage of ICT development and the political aims of the plans, seems highly important to the countries' approaches. As a result, it is difficult to draw many firm conclusions by comparing the countries in this report, as their contexts differ. Nevertheless, we will attempt to make some overall observations from the study.

Countries at different stages of ICT development tend to have different priorities and scope for their NBBPs. In particular, we see that countries in the earlier stages of ICT development have a greater focus on supply-side initiatives, building network infrastructures and encouraging widespread internet usage. Countries in later stages of ICT development focus more on demand-side measures and embedding ICT into the national society and economy.

Having a local context, in terms of both the current stage of ICT development and the political aims of the plans, seems highly important to the countries' approaches.

All of the NBBPs therefore seem to include all the different target levels (infrastructure, adoption and integration). For countries in the early stages of ICT development, many of the demand-side activities are more about adoption than integration. For countries in the later stages of ICT development, the smaller number of supply-side initiatives are usually closely linked to deeper integration activities.

Even countries with advanced ICT development see the continued need to integrate ICT more fully into their society and economy, with a changing focus of targets to ensure that potential obstacles to full integration, such as privacy concerns, are managed and that all sectors can take full advantage of the future benefits.

Setting specific and measurable targets is a recognized approach to ensure that the plan's goals can be monitored and achieved. However, softer, qualitative targets are also important particularly as ICT integration becomes more fully developed.

Supply-side targets lend themselves more readily to being expressed in specific, measurable terms but many effective demand-side targets express a direction of change but with less tangible, harder-to-measure KPI targets, which is also an important signal of progress toward a fully integrated ICT society. Demand-side targets can therefore be seen in both a measurable form and a more qualitative form but these two different types of demand-side targets should be treated separately.

Management of the NBBP also varies considerably across and within countries, depending on the political framework and type of initiative. There is no single right approach – central government control and funding is often used but is seldom the only approach taken. Effective government actions often focus on the stimulation of private funding and commercial activities. However, governments always play an important role in the central coordination of initiatives, in monitoring progress, and in ensuring the plan's goals are achieved.

APPENDIX

COUNTRY	MAIN SOURCE DOCUMENT	OTHER
Argentina	Argentina Conectada	Decrees and sector policies
Australia	National Digital Economy Strategy	
Brazil	Programa Nacional de Banda Larga	Decrees and sector policies
Chile	Agenda Digital Imagina Cile	Decrees and sector policies
Costa Rica	National Broadband Strategy	Digital social agreement
Croatia	Strategy for Broadband Development	Implementation program
Finland	Productive and Inventive Finland	Broadband for Everyone
France	Feuille de route de Gouvernment sur le numerique	France Tres Haut Debit
Malaysia	National Broadband Initiative	Digital Lifestyle Malaysia
Qatar	National Broadband Plan	National ICT plan
Singapore	Intelligent Nation 2015 Masterplan	
South Africa	South Africa Connect	
South Korea	U-Korea Masterplan	
Sweden	ICT for Everyone	Broadband strategy
UK	Britain's Superfast Broadband Future	Government digital strategy

Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, businesses and societies to fulfil their potential and create a more sustainable future.

Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.

With more than 110,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world's mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.

A study by Cullen International for Ericsson

Telefonaktiebolaget LM Ericsson
SE-126 25 Stockholm, Sweden
Telephone +46 8 719 0000
Fax +46 8 18 40 85
www.ericsson.com