

#SMARTer2030



# business playbook

THIS PLAYBOOK PROVIDES SUPPORT TO BUSINESS LEADERS  
WITH IDEAS TO ENABLE THE SUSTAINABILITY BENEFITS OF  
**ICT SOLUTIONS FOR A SMARTer2030**

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An initiative by:



**GeSI**  
GLOBAL e-SUSTAINABILITY  
INITIATIVE

supported by:



# KEY MESSAGES FOR BUSINESS LEADERS

## ICT FACES SUBSTANTIAL AND EXCELLENT GROWTH PERSPECTIVES...

...at the same time generating major sustainability and broader social benefits. We estimate \$2 trillion\* in additional ICT revenues in 2030, thereof \$0.4 trillion from connecting 2.5 billion new people to ICT services and \$1.6 trillion from delivering new ICT services across 8 key sectors. Overall, ICT could enable \$11.4 trillion stakeholder benefits, comprising new revenues from new business opportunities across key sectors and reduced costs from greater efficiencies and decreased waste.

## BUSINESS LEADER ACTION IS KEY

To fully realize ICT's business and sustainability potential action is required: Business leaders should explore ICT-enabled opportunities, realize ICT-enabled cost savings and commit to bold action.

## BUSINESS REQUIREMENTS

...vary by sector and should consider the differences between developing, emerging and developed markets.

# TO FULLY REALIZE ICT'S BUSINESS POTENTIAL ACTION IS REQUIRED

## CALL TO ACTION

### PRIORITIZED BUSINESS ACTION AREAS:

#### PRIORITY AREA 1

#### EXPLORING ICT-ENABLED OPPORTUNITIES



Connect with frontrunners, key sector actors and technology leaders. Learn, estimate and seize your business and revenue opportunities.

#### PRIORITY AREA 2

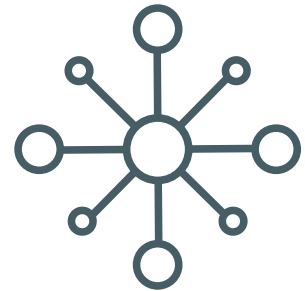
#### REALIZING ICT-ENABLED COST SAVINGS



Understand the “T” of ICT and its application range to exploit immense cost savings in all sectors through greater efficiencies and less consumption of scarce resources.

#### PRIORITY AREA 3

#### COMMITTING TO BOLD ACTION



Adapt ICT to your business. Innovate carbon efficient technologies, products and services. Collaborate with peers on ways to achieve greater carbon efficiency and set your own sustainability goals. Become part of the low carbon economy!

# PRIORITY AREA 1

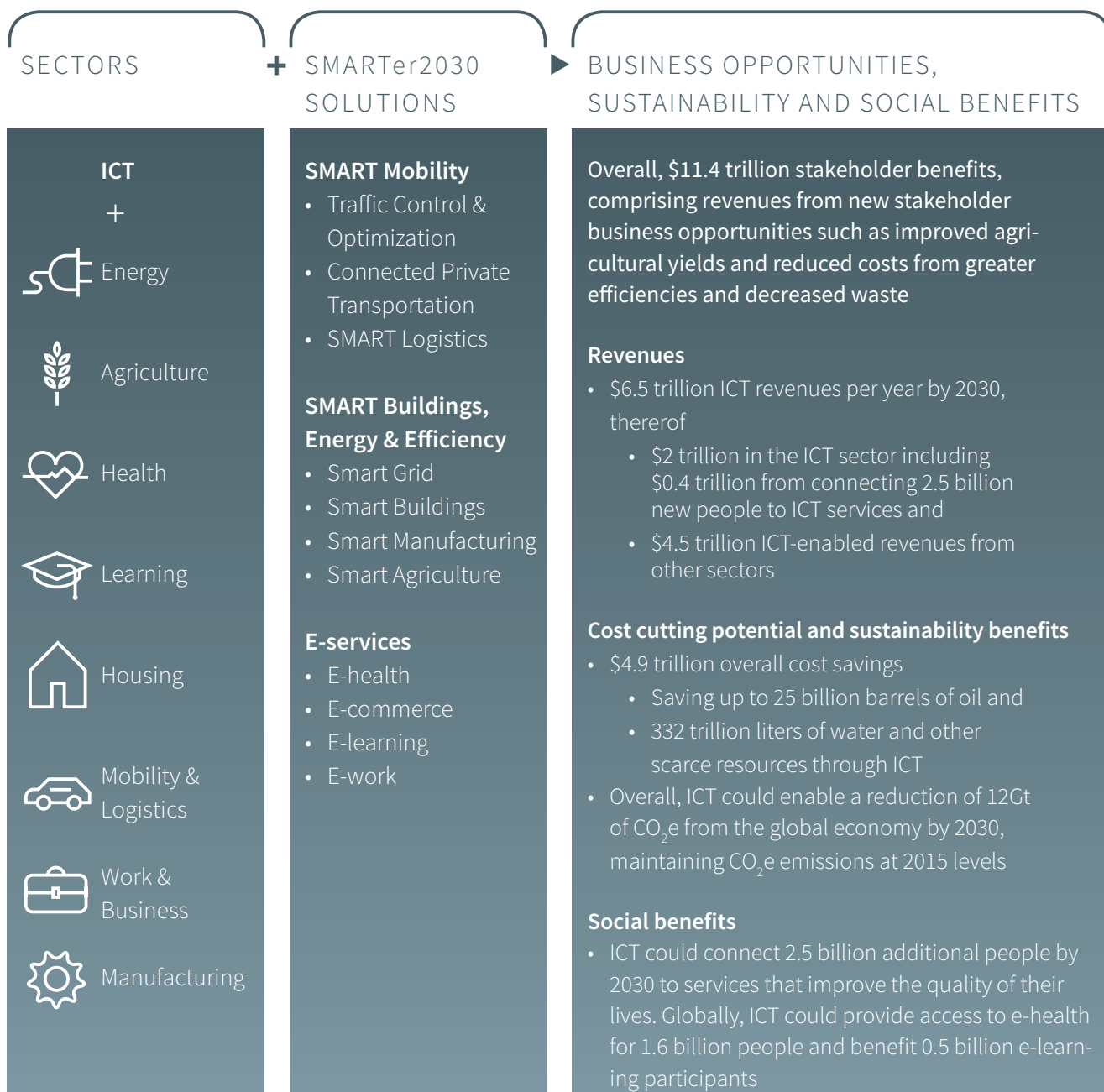
## EXPLORING ICT-ENABLED OPPORTUNITIES



### KEY BENEFITS OF ICT

ICT solutions are being implemented in one or more of the following key sectors:

Energy, Agriculture, Health, Learning, Housing, Mobility & Logistics, Work & Business, Manufacturing. By 2030, besides positive economic effects (revenue, growth and cost cutting potential), there will be sustainability benefits (reduction / halting of CO<sub>2</sub> emissions, saving of scarce resources) as well as social benefits (expanded internet connectivity, e-services).



# PRIORITY AREA 1

## EXPLORING ICT-ENABLED OPPORTUNITIES



### ICT-ENABLED BENEFITS PER SELECTED USE CASE

As illustrated in selected use cases below, ICT-enabled global benefits by 2030 are achieved in both key sectors and the ICT sector.



\* Note: Revenue effects from connecting new users to ICT are not taken into account to avoid overlapping.



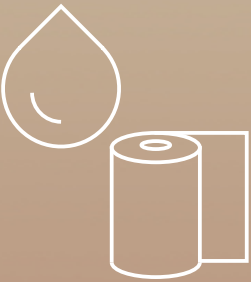

# PRIORITY AREA 2

## REALIZING ICT-ENABLED COST SAVINGS



### ICT-ENABLED GLOBAL RESOURCE SAVINGS BY 2030

The following table illustrates global savings of resources in terms of amount and money by 2030. Savings occur through the implementation of smart ICT solutions across identified “use cases” as examples show on the previous page. Total ICT-enabled savings of resources will equal nearly \$5 trillion.

	$  \begin{aligned}  &1.1 \text{ Tr} && \text{Liters of fuel saved across multiple use cases} \\  \times &1.08 && \text{\$/Liter (www.globalpetrolprices.com/gasoline_prices)} \\  = &\mathbf{1.1} \text{ Tr} && \text{\$ from fuel saved across multiple use cases}  \end{aligned}  $
	$  \begin{aligned}  &17 \text{ Bn} && \text{MWh of energy saved across multiple use cases} \\  \times &71.24 && \text{\$/MWh (European Commission data with Accenture correction rate)} \\  = &\mathbf{1.2} \text{ Tr} && \text{\$ from energy saved across multiple use cases}  \end{aligned}  $
	$  \begin{aligned}  &332 \text{ Tr} && \text{Liters of water saved across multiple use cases} \\  \times &0.0013 && \text{\$/Liter (http://researcher.watson.ibm.com)} \\  = &\mathbf{145} \text{ Bn} && \text{\$ from water saved across multiple use cases} \\  \\  &91 \text{ Mn} && \text{Tons of paper saved across multiple use cases} \\  \times &266 && \text{\$/Ton (www.woodbusiness.ca)} \\  = &\mathbf{24} \text{ Bn} && \text{\$ from paper saved across multiple use cases}  \end{aligned}  $
	$  = \mathbf{2.4} \text{ Tr} \quad \text{\$ from other savings}  $

# PRIORITY AREA 2

## REALIZING ICT-ENABLED COST SAVINGS



### THE SAVINGS POTENTIAL OF SMART BUILDING SOLUTIONS

The following case study illustrates how automation systems for smart buildings can realize cost savings based on reduced energy consumption.

**OBJECT:** a Large New York City hotel, built in 1963 with a total surface of 321,686 sq. ft., equivalent to 12 floors/ 250+ guest rooms. As of 2015, the building is equipped with 5 building management systems / controls systems

**CONCEPT:** Implementation of specific automation systems within broader smart building solutions, looking for a significant reduction in energy consumption

#### MAIN OPTIMIZATION AREAS IDENTIFIED:

1. Suboptimal VAV/AHU1\* scheduling
2. Sub optimally economized guest room operations
3. Stuck/leaking steam valves, valve/damper hunting and boiler staging, chilled water re-set

#### SMART BUILDING SOLUTIONS IMPLEMENTED (included as upfront and ongoing costs):

- Integration of automated fault detection systems and diagnosis tools to control systems
- Continuous building monitoring and analytics
- Measurement and verification systems
- Program management and operational guidelines

#### CALCULATIONS:

##### Time horizon considerations:

- Implementation of measures in 2016, last applicable saving for 2025 (10 full years of application)

##### Economic considerations:

- Upfront cost of \$150,000 + \$0.3 per sq.ft.
- Yearly cost of \$20,000 + \$0.2 per sq.ft.
- Yearly savings: \$150,000, increased by 5% in the first two years due to increased efficiency
- Discount rate = national bond 10-years (i.e.: US Govt. Bond Yield: 2.0%)

#### RESULTS:

- **Net Present Value of implementation costs + obtained savings in energy consumption: between \$525,000 and \$575,000**
- Initial investment and installation costs estimation: \$250,000
- Investment recovery after 2 - 3 years
- **Maximum annual savings in electricity consumption: between \$160,000 and \$170,000**
- CO<sub>2</sub>e that has been abated due to this project (2016-2025): 13.7k MWh = 1,345 tn CO<sub>2</sub>e
- CO<sub>2</sub>e abated per monetary unit (in \$) invested in the project: \$747 = 1 tn abated

\* VAV=Variable Air Volume, AHU=Air Handling Unit

# PRIORITY AREA 3

## COMMITTING TO BOLD ACTION



LEADING BUSINESSES HAVE EITHER COMMITTED TO CO<sub>2</sub> REDUCTION TARGETS OR ALREADY TAKEN ACTION TO BUILD THE PROSPEROUS LOW CARBON ECONOMY OF THE FUTURE

### BUSINESS COALITIONS

**Business Coalitions\*** recommend:

- Increase the current level of urgency and ambition to stabilize global emissions before the end of this decade in order to raise bold business opportunities
- Set clear long-term emissions reduction targets in line with the scientific 2°C target for restricting global warming
- Implement domestic policies towards 2030 that support bold business action to cut GHG emissions
- Ensure that all policy regimes dealing with fiscal, energy, industry and trade-related issues provide actionable incentives for an early transition to a low carbon future
- Enhance existing mechanisms by which we improve transparency and accountability in monitoring climate ambition and action, and ensure a stable and predictable low carbon investment environment
- Continue to scale up public finance to support resilience-building and accelerate low carbon investment by the private sector
- Innovate low carbon materials, products and services
- Switch to 100% procurement of low-carbon electricity
- Integrate internal carbon prices to affect investments decisions and in anticipation of regulated carbon pricing
- Collaborate with peers on low carbon commodity sourcing standards to eliminate deforestation from their value chains
- Commit to responsible corporate engagement in climate policy and aligning public affairs with sustainability strategies
- For investors, publishing and reducing the carbon footprint of their portfolios and setting clear targets to reduce it
- Collaborate to reduce emissions in their supply chains and at sectoral level
- Develop low carbon technology partnerships to speed the deployment of low carbon and breakthrough technologies

\* Business Coalitions referred to are: We Mean Business, Partners of the Business and Climate Summit, and others



# PRIORITY AREA 3

## COMMITTING TO BOLD ACTION



### MULTILATERALS

#### **Multilaterals\*** recommend:

- Demonstrate leadership in advancing practical solutions and strategies addressing climate change
- Align a climate change business strategy with a UN-led initiative that has high visibility
- Communicate publicly a company's actions on climate change
- Share best and emerging practices and gain access to the experiences of peers
- Shape the climate change policy agenda and call for policy frameworks that reward leadership and innovation
- CO<sub>2</sub> emissions generated by the telecommunication/ICT sector to be decreased per device by 30% by 2020\*\*

### SELECTED COMPANIES

#### **Selected company examples\*\*\***

- Reduce worldwide CO<sub>2</sub>e emission intensity by 80% compared to 1996/97 levels by December 2020 (KPI)
- Reduce carbon emissions in Japan by 30 million tons annually by 2020 through the provision of advanced, energy-efficient technologies and solutions
- Commitment to make operations carbon neutral. To achieve net zero emissions for data centers, software development labs, offices, and employee business air travel in over 100 countries around the world
- Reduce CO<sub>2</sub> emissions by 20 percent by 2020 compared with 2008 through effective efficiency measures
- Reduce direct CO<sub>2</sub>e emissions intensity of vehicle fleet by 25% per kilometer from 2010 to 2015 through purchases of smaller and more efficient vehicles
- Reduce CO<sub>2</sub> emissions across entire value chain by 40% from 2010 to 2020
- Reduce emissions intensity of operations by 20% by 2020 through energy efficiency and renewable energy purchases and installation

\* Multilaterals referred to are: Caring for Climate (Caring for Climate is an initiative of the UN Global Compact, the UN Environment Programme and the secretariat of the UN Framework Convention on Climate Change), International Telecommunication Union (ITU) and others

\*\* Baseline data still pending and to be published by ITU in 2015 as part of its Connect 2020 Agenda

\*\*\* Company examples listed are all member or cooperation partner of the Global e-Sustainability Initiative (GeSI)

Further examples at: [climateaction.unfccc.int/companies.aspx?industrygroupid=13&](http://climateaction.unfccc.int/companies.aspx?industrygroupid=13&)

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