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Smart Infrastructure Market Report

2015

Infrastructure Asset Networking Solutions

Problem:

US Infrastructure Is Failing

American Society of Civil Engineers
2013 Report Card for America's Infrastructure:

Grade:	Investment Required:
D-	$3.6 Trillion

(Click below to read ASCE Report)

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2013 REPORT CARD for America's INFRASTRUCTURE

Problem:
Global Infrastructure Needs Through 2030 Are $57 Trillion

"Simply to support economic growth between now and 2030, we estimate that ***global infrastructure*** *would need to* ***increase by nearly 60%*** *from the $36 trillion spent on global infrastructure during the past 18 years* ***to $57 trillion over the next 18 years****…"*

Source: McKinsey Global Institute;, *Infrastructure productivity: How to save $1 trillion a year, 2013*

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Demand for Infrastructure Productivity Solutions Will Only GROW:

- Aging infrastructure CANNOT be ignored
- "Infrastructure (funding) Gap" (defined as the amount of investment needs minus funding resources) requires more productive maintenance practices to free funds for repairs and replacement
- State governments are required to do more with less
- 60% of US infrastructure investments are made by states
  (Source: ASCE *2013 Report Card for America's Infrastructure)*

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Idencia's Vision for Smart Infrastructure

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Smart Infrastructure Opportunity

Infrastructure Becomes a Network Platform

Each bridge, tunnel, sewer pipe, etc. becomes a node on the network.

Manufacturers embed identifiers and sensors to create network frame.

True potential of the platform is realized by the services provided on it by developers.

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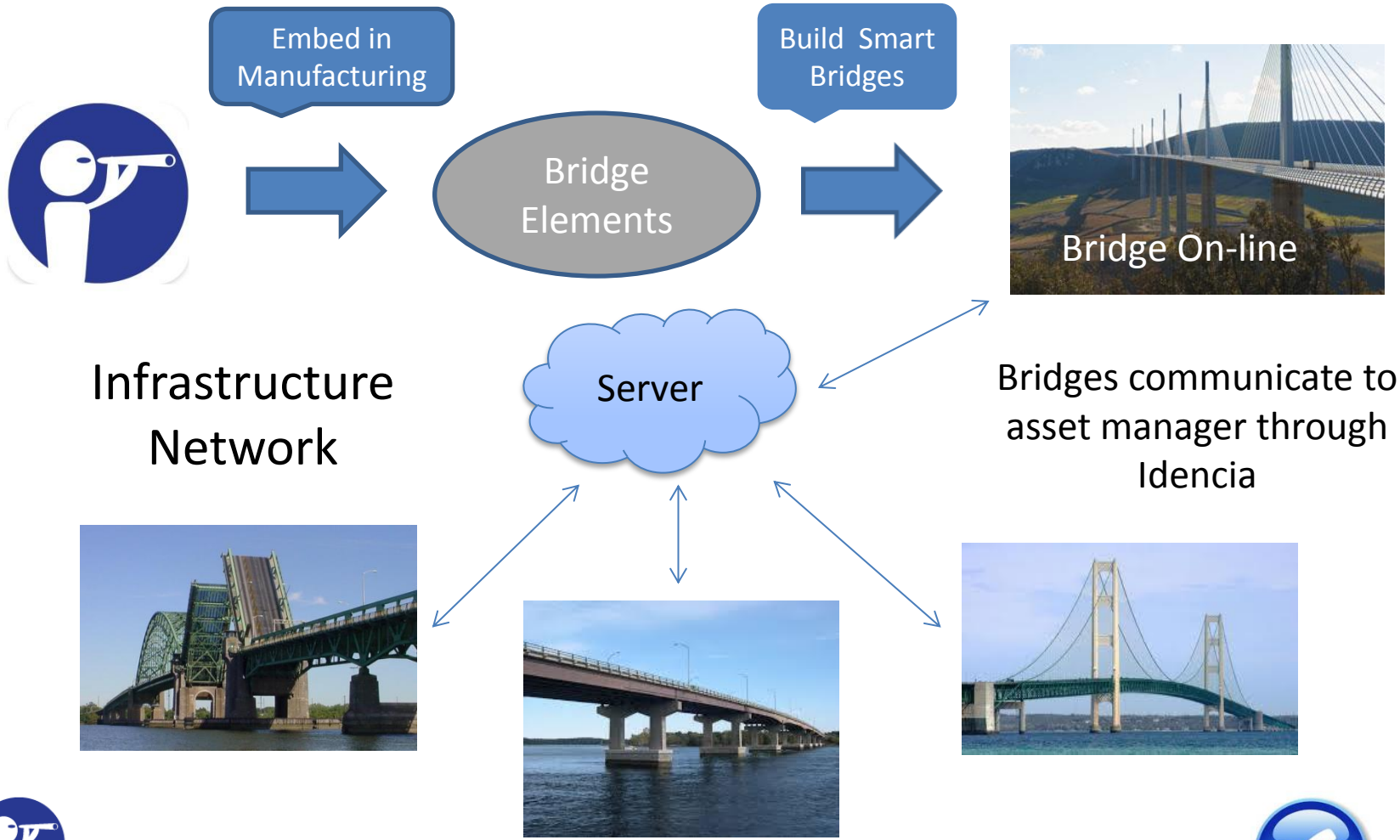
Bringing Infrastructure On-line



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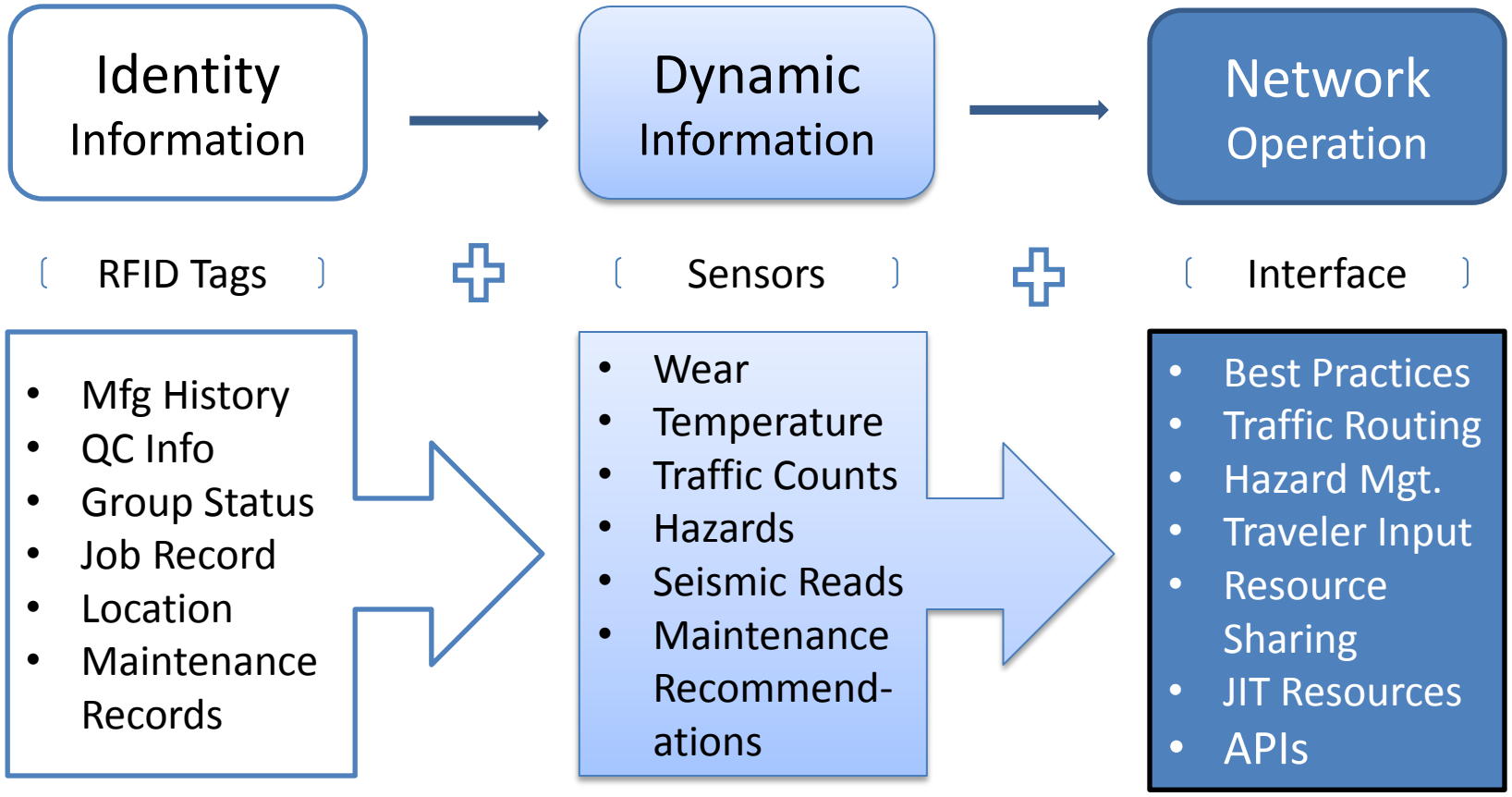
Smart Infrastructure Platform

Will Evolve into a Fully Interactive Network

(Idencia Currently)



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Smart Infrastructure

Produces Efficiencies For Manufacturers

Infrastructure manufacturers are more productive **AND** more competitive in their bids

- Electronic product tracking systems improve internal productivity
- Smart Infrastructure capability provides high-margin value-add to customers
- Enables new revenue opportunity: after purchase servicing and maintenance

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Smart Infrastructure

Produces Efficiencies For Asset Managers

Asset managers realize productivity benefits

- Eliminates cost of paper records
- Enables asset search efficiencies
- Enhances safety with advanced warnings from sensor reports
- Enables networked communication for better public service

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Smart Infrastructure

Produces Efficiencies For Taxpayers

"The Manchester, New Hampshire police department has… [offered citizens a text-based service that]... can provide critical announcements …

Taxpayers benefit from lower taxes and better service

- Improved government productivity enables government to do more with less
- Better information flow creates opportunity for improved public service
- Networked infrastructure will enable better citizen input

The department has used the system to remind customers who park in a downtown lot prone to auto break-ins to lock their doors, cutting the incidence of theft by 40 percent."

Source: Deloitte February 2013 report: *"Gov on the go, Boosting public productivity by going mobile"*

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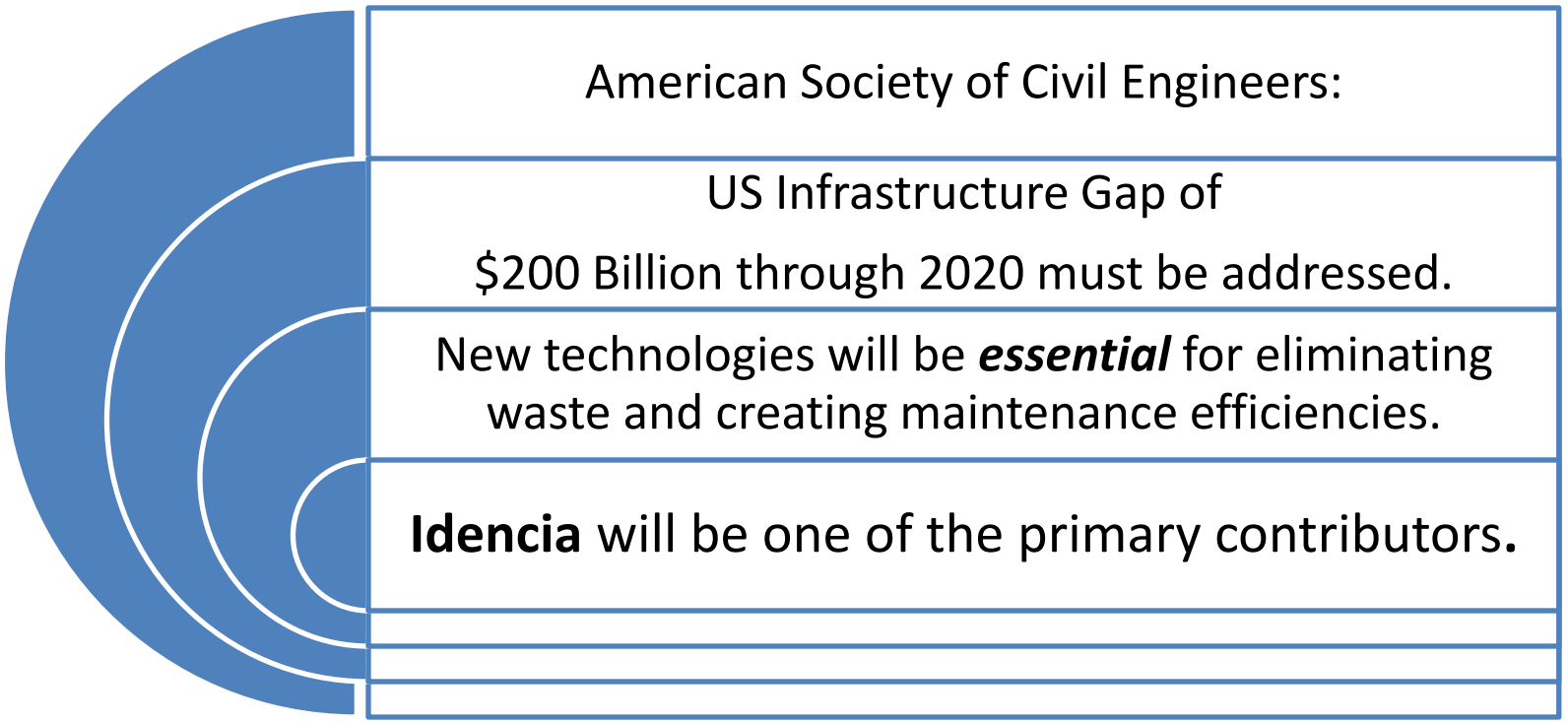
US Market Opportunity



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US Infrastructure Needs

Produce $2.7B Opportunity for Smart Infrastructure

Required Infrastructure Investments		US Investment by 2020	Annual Investment Needs
Bridges		121,000,000,000	24,700,000,000
Water/Wastewater Infrastructure		126,000,000,000	15,750,000,000
Dams		21,000,000,000	2,625,000,000
Levees		80,000,000,000	10,000,000,000
Railroad- Freight		59,000,000,000	24,000,000,000
Railroad- Mass Transit		41,000,000,000	8,000,000,000
Schools		391,000,000,000	48,875,000,000
Total		**$ 839,000,000,000**	**$ 133,950,000,000**
Asset Networking Share	*2.00%*	**$ 16,780,000,000**	**$ 2,679,000,000**

Source: ASCE *2013 Report Card for America's Infrastructure*

Note: Does not include tunnels

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But, how is 2% Justified?

As asset networking share of infrastructure investments

Because these investments will create productivity gains for taxpayers that are greater than their cost.

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Technology Adoption Boosts Productivity…

"Over the past 25 years, ***productivity in the private sector has risen by more than 50 percent****. Globalization, advanced manufacturing processes, and a deeper understanding of individual and organizational psychology have all contributed significantly to this growth. But…*

the single most significant contribution to this growth has been the

private sector's ability to harness the disruptive power of technology*…"*

Deloitte February 2013 report: *"Gov on the go, Boosting public productivity by going mobile*

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With Measurable Results

"In fact, information technology adoption has been responsible for about **one-third of the growth in labor productivity** in the private sector since the 1960s…"

Deloitte February 2013 report: *"Gov on the go, Boosting public productivity by going mobile"*

25-Year Annual Productivity Growth: **50%**

Annual Productivity Growth **2%**

Technology Contribution **1/3**

Technology Contribution to Annual Productivity Growth for Past 25 Years

.0667%

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Let's Use an Example

Structurally Deficient Bridges

Number of Structurally Deficient Bridges in US	151,497
Investment Required	$75 Billion
Average Investment	$495,000
Cost to Network	$ 10,000
% of Total Repair Cost	**2.02%**
Market for Structurally Deficient Bridges	**$1.5 Billion**

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ASCE *2013 Report Card for America's Infrastructure*

How does 2% Compare?

With Productivity Gains

Expected Annual Productivity Gain		0.67%
%- Network System Cost to Total	2.00%	
Expected Term Before Upgrade (Years)	5	
% Network System Cost Annualized		0.40%
Annual Productivity Surplus		0.27%

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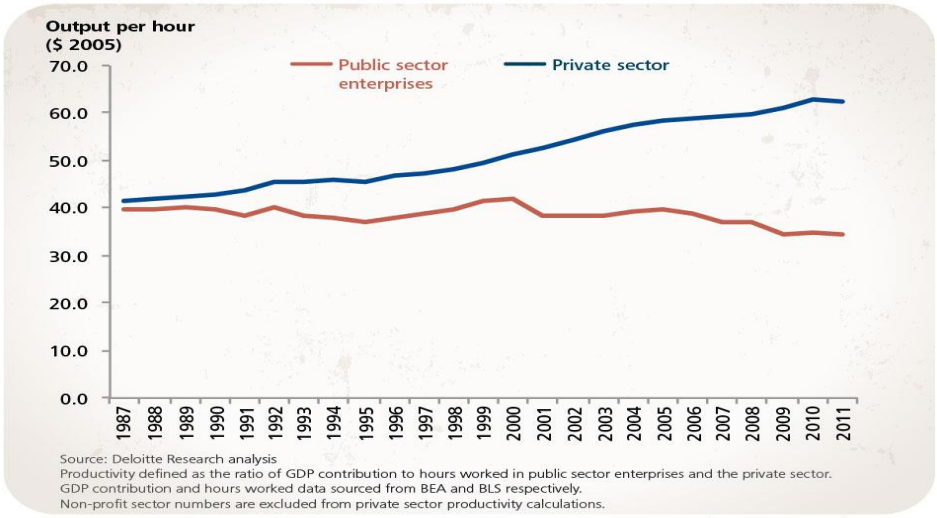
Infrastructure Gap

Makes Public Sector Ripe for Productivity Gains

"… the difference in how the private and public sectors deploy IT is the largest single factor behind the productivity gap between the private sector and the government."

"From the telephone to computerization to "balanced scorecard" performance management, government, with the notable

Figure 1: US productivity output: Private sector vs. public sector enterprises



Source: Deloitte Research analysis
Productivity defined as the ratio of GDP contribution to hours worked in public sector enterprises and the private sector.
GDP contribution and hours worked data sourced from BEA and BLS respectively.
Non-profit sector numbers are excluded from private sector productivity calculations.

Graphic: Deloitte University Press | DUPress.com

exception of the military, typically has been a late adopter of new technologies and business models. **Nevertheless, it does eventually adopt them**."

Deloitte February 2013 report: *"Gov on the go, Boosting public productivity by going mobile"*

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Global Market Opportunity

McKinsey Forecasts $2.7 Trillion Annual Global Investment

McKinsey Global Institute 2013 Report:
"Infrastructure productivity: How to save $1 trillion a year"

"The size of the infrastructure gap and concerns about how to find the money to fill it are the linchpins of current debate on this issue. ***But this focus overshadows what we believe to be an equally compelling imperative-*** *to improve the planning, delivery and operation of infrastructure* ***to get more, higher-quality capacity for less money, and to boost infrastructure productivity****."*

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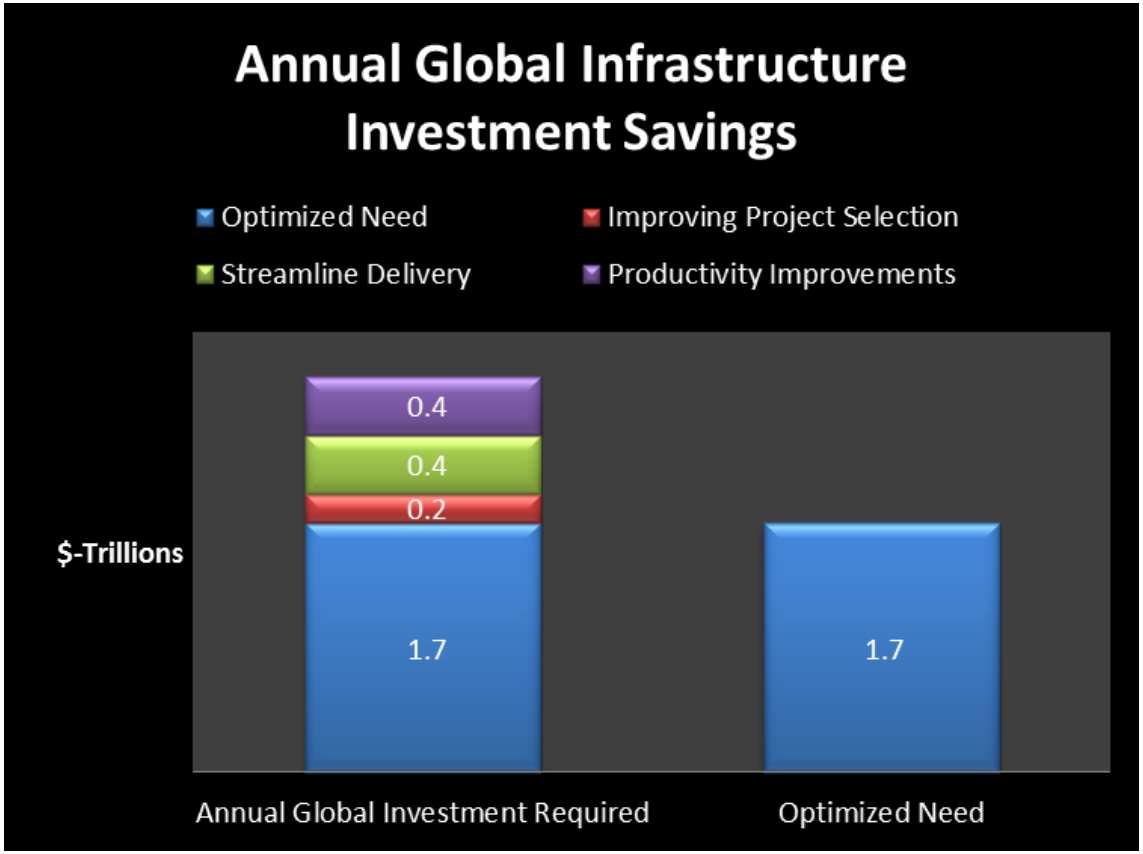
Source: Click for Full Report McKinsey Global Institute

Global Market Opportunity

$400B Annual Opportunity in Productivity Improvements



Source: Click for Full Report McKinsey Global Institute

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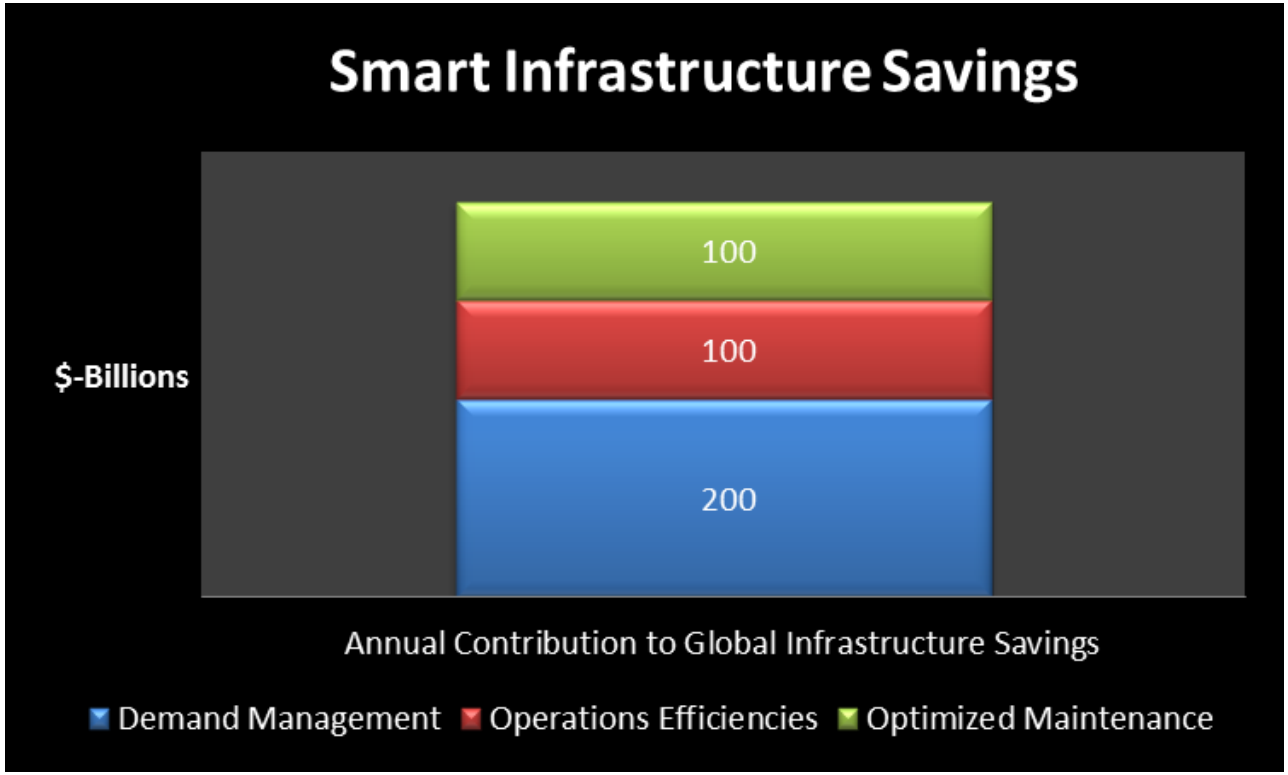
Smart Infrastructure

Contributions to $400B Annual Productivity Improvements



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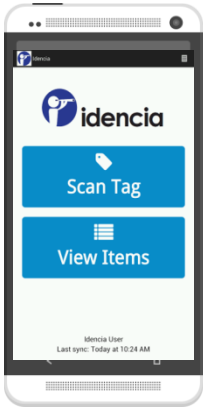
Source: Click for Full Report McKinsey Global Institute

Idencia Process

RFID tag embedded in manufacturing (through patented process) and scanned

Manufacturing information entered through Android or iOS enabled handheld



Asset is now in the Idencia system with a unique identity and data log that can be updated over the life of the asset

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Idencia Identity Solution

Idencia already provides real-time access to information about:

- Manufacturing and life histories
- Quality Control information
- Production status
- Group status
- Batch status
- Inventory location

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Offering Product Tracking Solutions to Solve Big Needs

Idencia*

Is Already inUse

Toronto Subway, Toronto, CA

Alaskan Way Replacement, Seattle, WA

Concrete ties for Union Pacific Railroad

*Idencia and legacy product

Asset Managers

See the Value of Smart Infrastructure

2 Significant Partnerships Are In Place

Pilot program started in 2012 with North Carolina DOT has determined that electronic asset tracking will produce desired efficiencies. NC DOT will require all precast vendors to include asset tracking starting in 2014.

Agreement signed with Union Pacific Railroad to equip its core vendors of rail products with Idencia.

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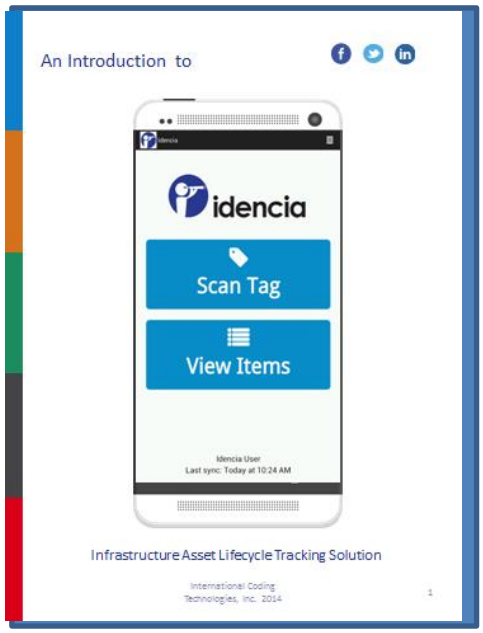
Would you like to see how your business can participate in Smart Infrastructure?

Download
Idencia Primer



Yes, I would like to:

Schedule an Idencia Consultation

Please click on either to learn how

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