ERICSSON GUEST LECTURE@KTH

John.mccarthy@ericsson.com

OUR VALUES
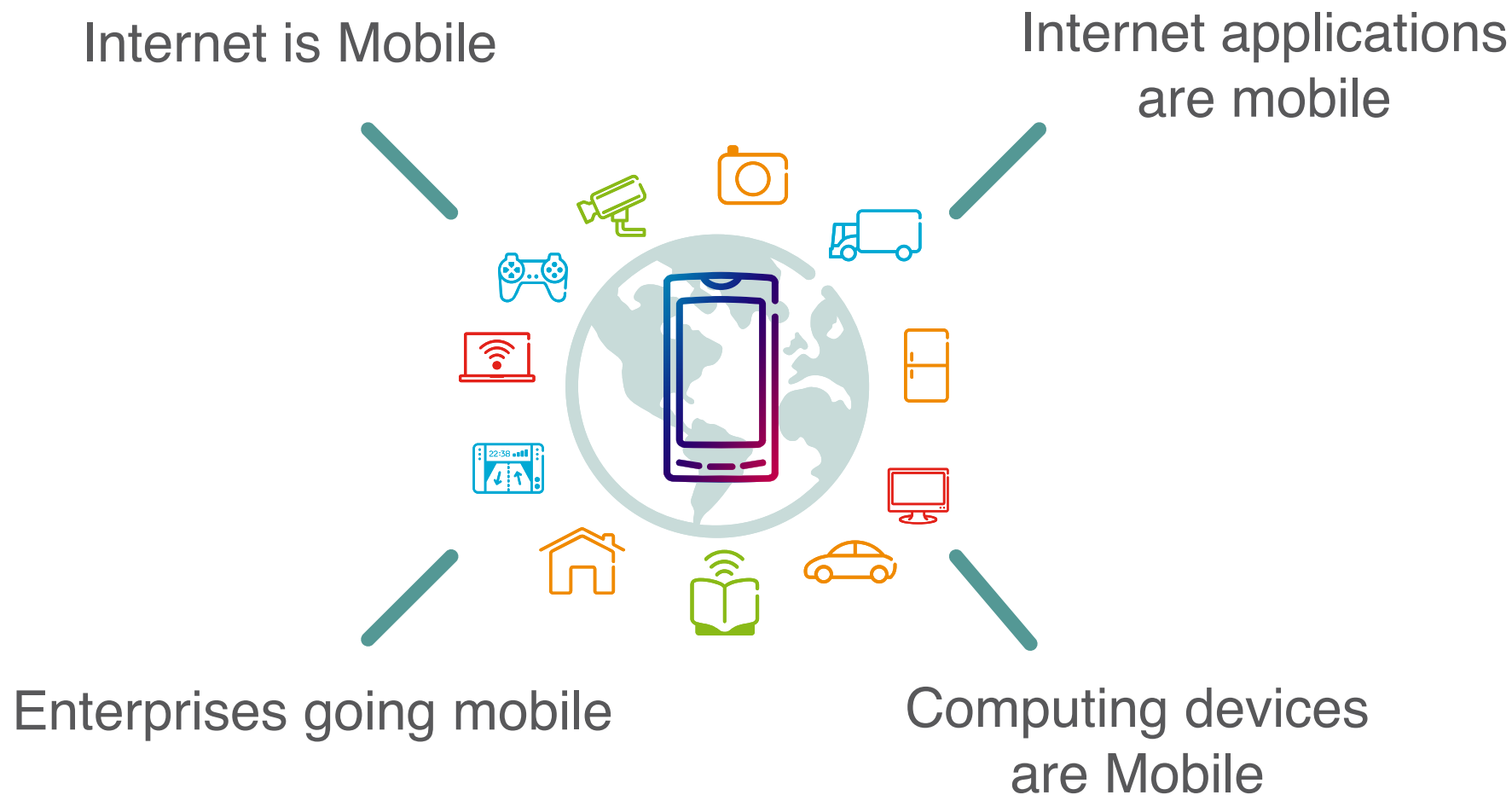
› Respect

› Perseverance

› Professionalism
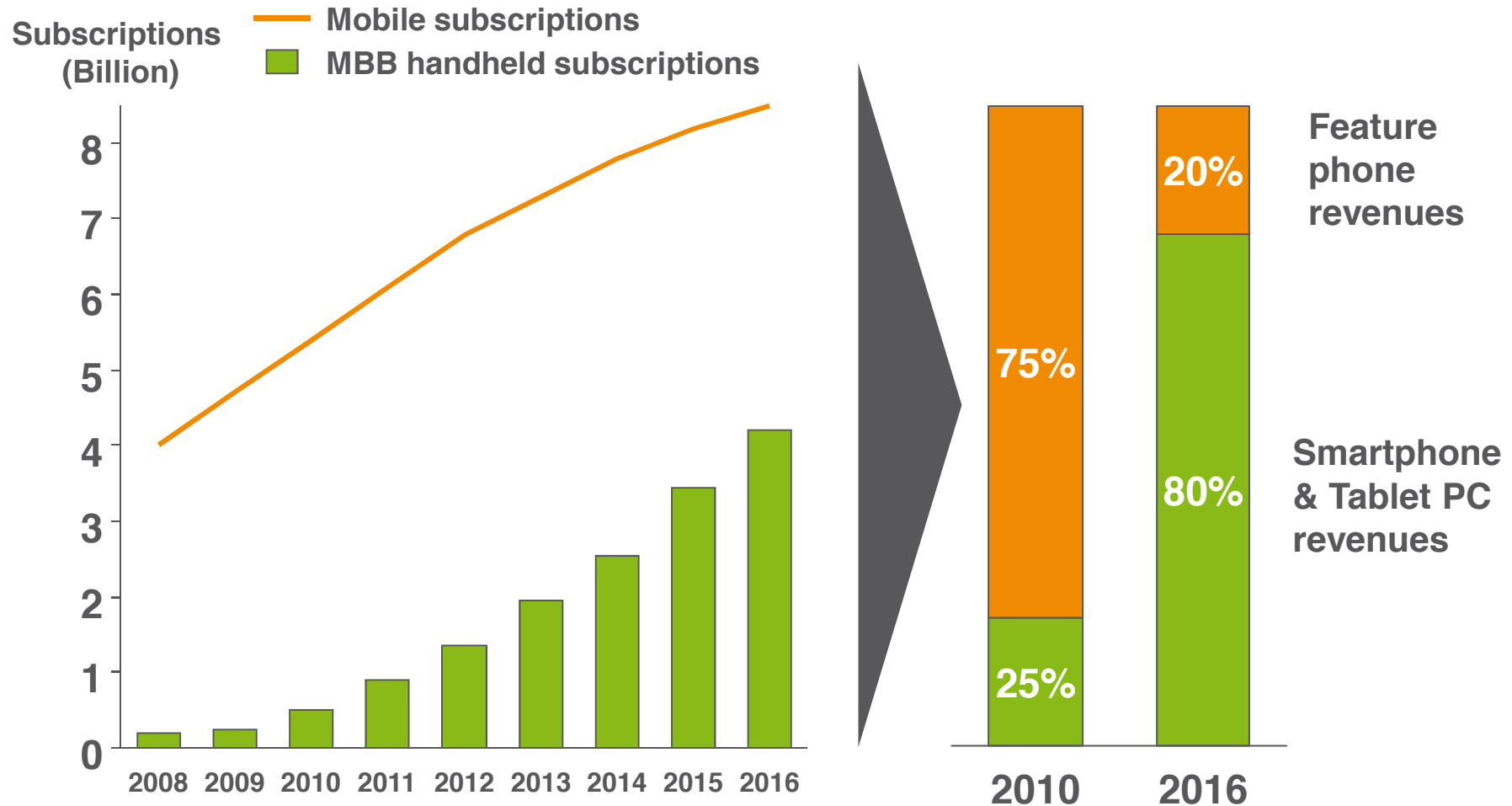
The prime driver in an all-communicating world

# THE LARGEST CHANGE IN INDUSTRY SINCE THE INTRODUCTION OF MOBILE TELEPHONY

Internet is Mobile

Internet applications are mobile

Enterprises going mobile

Computing devices are Mobile

2016 OUTLOOK

Subscriptions
(Billion)

— Mobile subscriptions
■ MBB handheld subscriptions

Feature phone revenues

20%

75%

Smartphone & Tablet PC revenues

80%

25%

2008 2009 2010 2011 2012 2013 2014 2015 2016
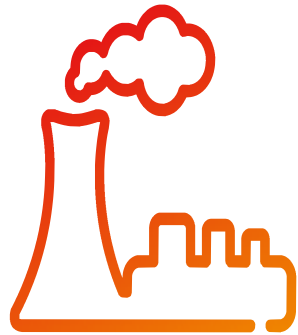
2010 2016

[>4 BILLION SMARTPHONES REPRESENTING >80% OF OPERATOR REVENUES]

NEXT STEP IS TO CONNECT ALL THINGS
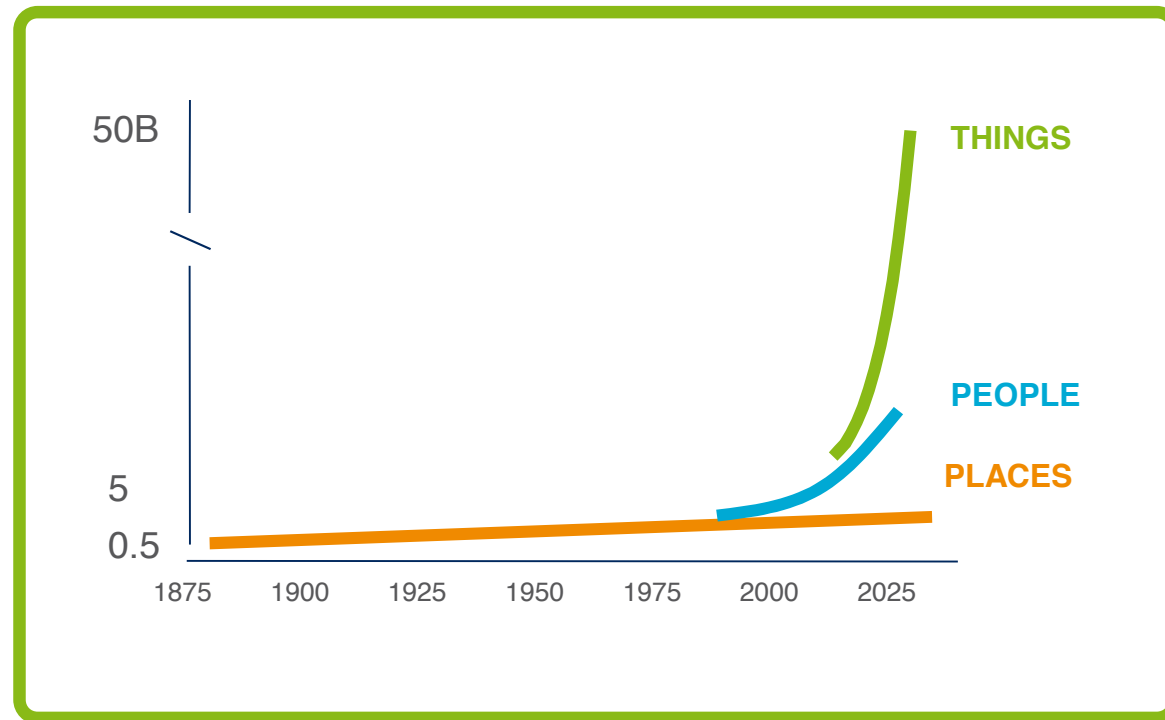
GENERAL PURPOSE TECHNOLOGY

Steam

Electricity

ICT
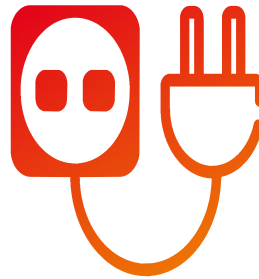
NETWORKED SOCIETY

A NEW MINDSET

ACCESS EXPERIENCES

PACE OF CHANGE

50 billion connected things

5 billion connected people

1 billion connected places

THINGS
PEOPLES
PLACES

Billions

50
40
30
20
10
0

1900   1990   2000   2010   2020
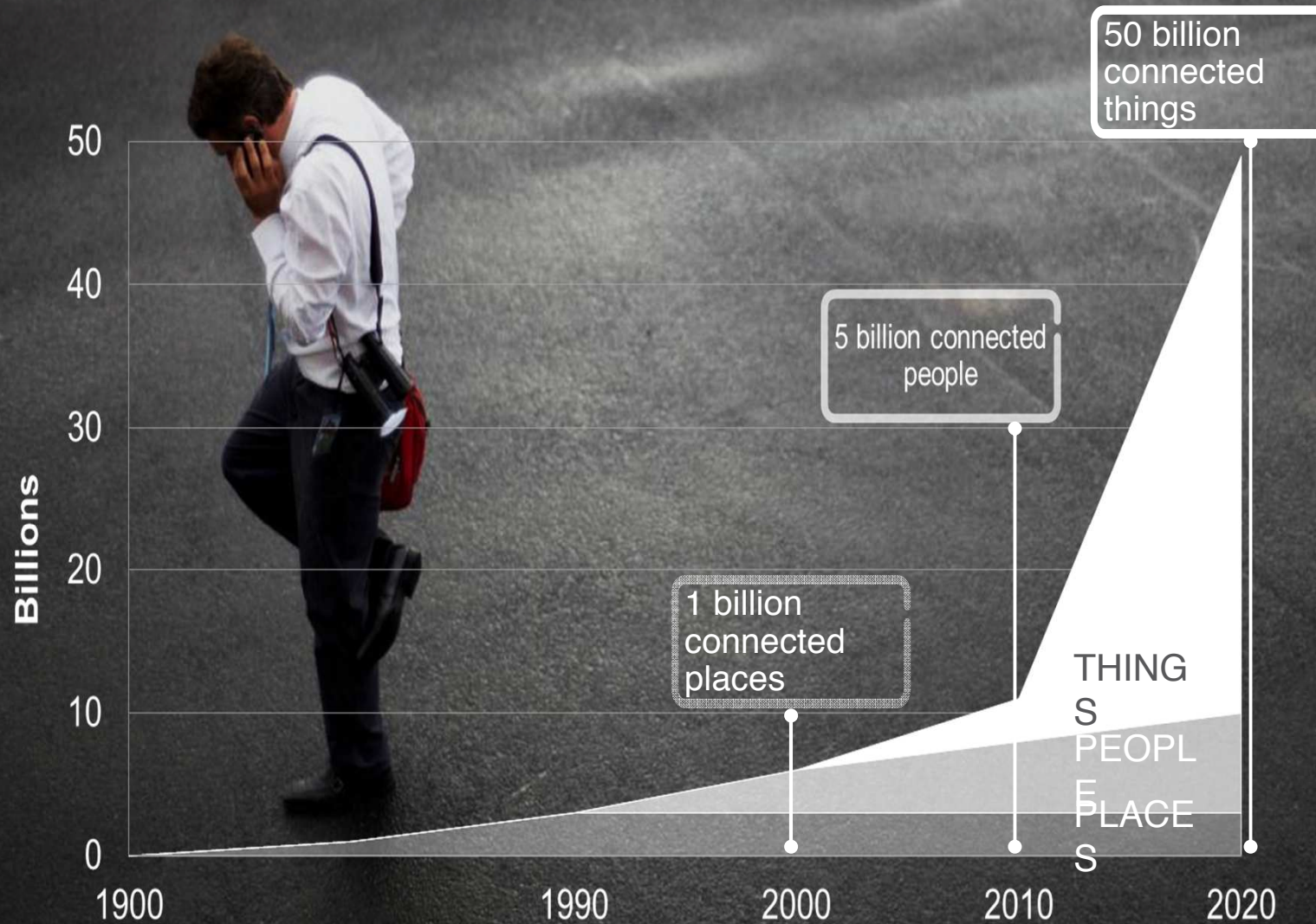
EMPOWERMENT
&
OPPORTUNITY

FOR USD 10 PER MONTH,
YOU CAN STREAM

20
MILLION
SONGS TO YOUR MOBILE DEVICE

TRANSFORMING INDUSTRY

DIGITIZATION RESULTS IN GROWTH OF ENTIRE MEDIA INDUSTRY

	IN 2007		BY 2016
Media products	USD 381 bn	⇨	USD 352 bn
Online media services	USD 21.7 bn	⇨	USD 104 bn
TOTAL	**USD 402 bn**	⇨	**USD 456 bn**

WHY CHANGE?

A NEW POPE IS ELECTED

Source: NBC

LEAN AND AGILE?

› Focus on customer

› React to change

LEAN

Essentially, LEAN is centered on preserving **value** to the customer who consumes a product or service with less work. **Value** is defined as any action or process that a customer would be willing to pay for.

JIDOKA

改善

KAI
ZEN

AGILE

In Agile methods, instead of building the whole product, you build the smallest possible useful part and give it to users, who tell you what is right and what is wrong.

› Agile manifesto
  – **Individuals and interactions** over processes and tools
  – **Working software** over comprehensive documentation
  – **Customer collaboration** over contract negotiation
  – **Responding to change** over following a plan

More Info :
http://agilemanifesto.org/

KEY IDEA - PRINCIPLES

› Focus on flow

› Establish e2e SW development

› Expose inefficiencies

› Lead-time focus drives efficiency

FROM WATERFALL TO AGILE

BEFORE

HANDOVERS

LATE DISCOVERY OF FAULTS

SYSTEM DESIGN → SW DESIGN → TEST

LONG FEEDBACK LOOPS

NOW

TEAMS WITH E2E FEATURE RESPONSIBILITY

FEWER REMAINING FAULTS

EARLY ANALYSIS → DEVELOPMENT IN XFT:s → RELEASE VERIFICATION

USING CONTINUOUS INTEGRATION

- -

SW QUALITY

GA

GA
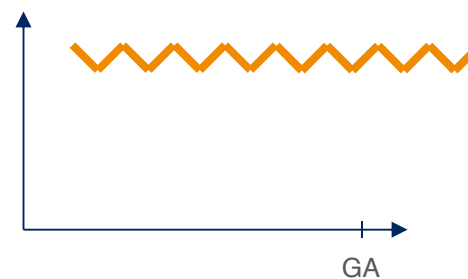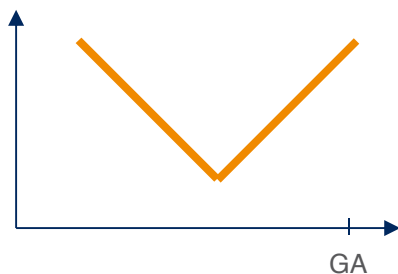
GA = General Availability
XFT = Cross Functional Team

SCRUM

Product Owner

Scrum Team

Scrum Master

Daily Scrum Meeting

Sprint

Sprint Planning Meeting

Product Owner External Customer

Product Backlog

Sprint Scope

Sprint Retrospective

Sprint Review

Potentially Shippable Product

Feedback from reviewers sent to product backlog:
- not approved items
- not completed items
- change requests
- new requests

More info :
http://www.infoq.com/minibooks/kanban-scrum-minibc

CONTINUOUS INTEGRATION ENABLES CONSTANTLY HIGH QUALITY IN DEVELOPMENT AND MAINTENANCE

Before CI

Release

Quality

System Design → SW Design → Test

With CI

Release

Quality

Early Analysis →

Continuous Integration

Product Development by XFTs

S D T   S D T   S D T   S D T   S D T

Continuous Legacy Test

Hourly cycle   Daily cycle   Weekly cycle   Sprint cycle
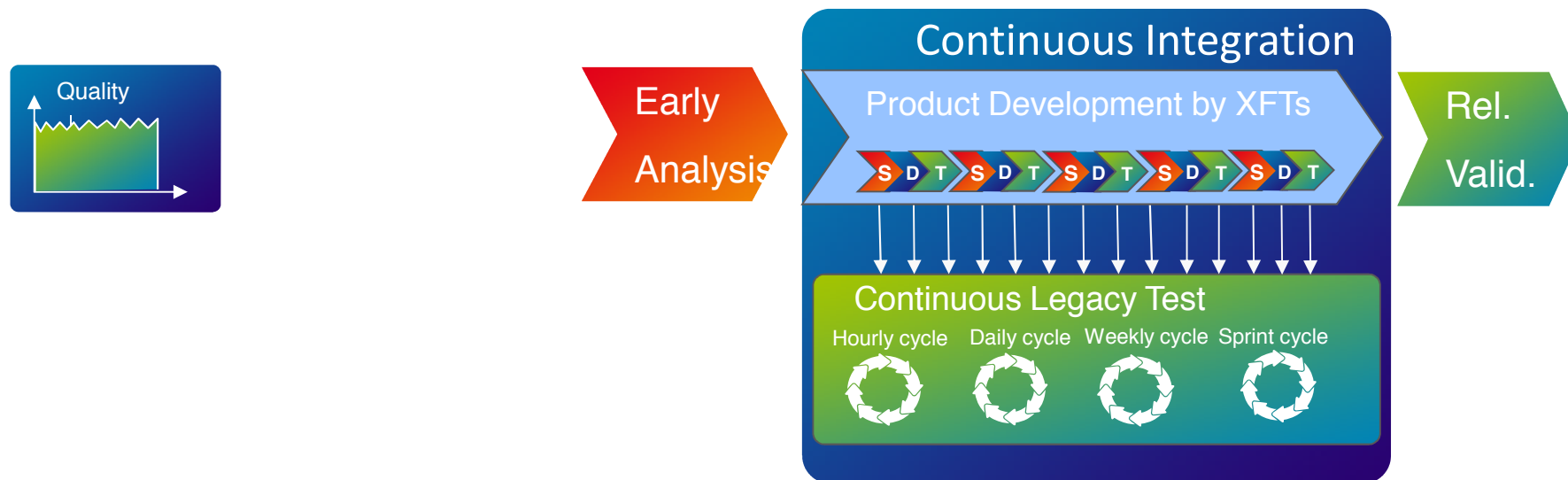
Rel. Valid.

160 000 LEGACY TEST CASES EXECUTED EVERY WEEK

AGILE DEVELOPMENT WILL NOT SOLVE ANY PROBLEMS – IT WILL JUST MAKE THEM SO PAINFULLY VISIBLE THAT IGNORING THEM IS HARDER

KEN SCHWABER

TEAMS

ROLES

Inattention to
Results

Avoidance of
Accountability

Lack of
Commitment

Fear of
Conflict

Absence of
Trust

THE FIVE DYSFUNCTIONS OF A TEAM
PATRICK LENCIONI

TRANSFORMING SOCIETY

BY 2020, ICT COULD REDUCE
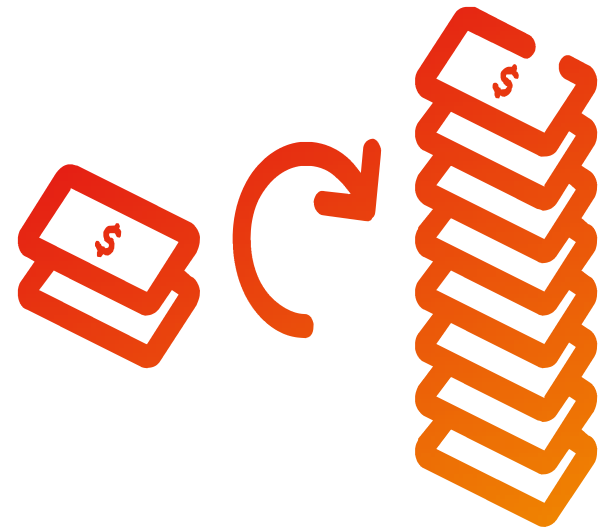OIL CONSUMPTION
BY

21.
6

BRINGING PROGRESS TO MILLIONS

› **Kick-starting economies**

›› For every 10 percent increase in mobile and broadband penetration, GDP increases by 1 percentage point.

›› Doubling connection speeds yields a 0.3 percentage-point increase in GDP (Ericsson and Arthur D. Little, 2010-2011).

POWER TO THE PEOPLE

› It's bringing us closer to our nearest and dearest:

  › Video constitutes 25% of smartphone traffic and 40% of tablet traffic (Ericsson Mobility Report, 2012).

› Reuniting families:

  › 185,000 people have registered on Refugees United's family-tracing platform (Refugees United).

› Redefining learning and education:

  › Coursera hosts over 200 online courses for 1.3 million students (BBC).

THE CHALLENGES

45 MILLION PEOPLE FORCIBLY DISPLACED IN THE WORLD.

CO2 RELEASE RATE INTO THE OCEANS ARE 10 TIMES FASTER THAN THOSE BEFORE THE LAST MAJOR SPECIES EXTINCTION

ONLY 1 IN 6 PEOPLE IN THE DEVELOPING WORLD HAVE ACCESS TO THE INTERNET.

70% OF GIRLS IN SOME AFRICAN COUNTRIES DON'T GET A SECONDARY EDUCATION

SUSTAINABILITY AND CR: KEY FOCUS AREAS

Energy, Environment & Climate Change

› Socio-economic Benefits/GDP

› Bridging the Digital Divide

› Enabling Access to Healthcare, Education and Livelihood

Communication for All

Trusted Partner

› Code of Conduct

› Product Take Back

› Manage Risk

› ICT and Human Rights

› Energy Efficiency: Networks & Solutions

› Alternative Energy, Green Sites

› Telecoms to Offset Societal CO_2

OUR CORE TECHNOLOGY IS OUR CONTRIBUTION

OUR KEY ISSUES

Accessibility and affordability of mobile communication

Energy and material performance

Climate change and urbanization

Business ethics

Employee engagement

MILLENNIUM VILLAGES

STOCKHOLM ROYAL SEAPORT

CONNECT TO LEARN

PROMOTING PEACE & RECONNECTING REFUGEES

BANKING THE UNBANKED

ERICSSON RESPONSE

TECHNOLOGY FOR GOOD

› Ericsson´s unique approach

› Through public and private partnerships we apply our technology and competence to address global sustainability and humanitarian challenges.

OVERVIEW 2013

Connect to Learn

33 Schools

17,000 students

13 countries

Stable, scalable solution

Refugees United

1 million users by 2015

211.000 users by September 2013.

Operations in Kenya, Egypt, Uganda, DRC

New deployments planned in Tanzania, Jordan, Irak during 2013

Peace Earth

Powering Peace

Harmonizer Program in Uganda

Youth Peace Network in S.S

New deployment planned in Mexico Q4 2013

T4G Around the world

Millenium Villages

Lake Victoria

Amazon Connection

Ericsson Response

Rural Health

Smart Buses in Curitiba

M – commerce

THE PEACEEARTH FOUNDATION

The PeaceEarth Foundation is a nonprofit organization, committed to global and community peacebuilding and citizen empowerment in conflict zones worldwide.

The Foundation seeks to empower youths, women, and global citizens to promote peace through conflict-resolution training programs, grassroots efforts, access to experts, methodology, social media, technology, and communication tools to establish and sustain citizen-led civic peace initiatives.

Ericsson commitment

› Tap into Ericsson 3G networks in each country, leveraging relationships with local network operators to facilitate mobile connectivity and Internet access

› Provide 50 Connect to Learn netbooks

› On-site project management to manage the physical deployment of the solutions

› Provide Wifi networks

› Give ICT training for teachers and students

› Monitor and evaluate the progress of the solutions

KEY MILESTONES (1/2)

› **1993:** First Environmental Report

› **1994:** First Life Cycle Assessment

› **1998:** First release of "The Ericsson lists of banned & restricted substances"

› **2000:** First "Sunsite" - RBS powered by solar panels - launched in Morocco

› **2001:** Ericsson Group generic requirement specification for Design for Environment released

› **2002:** First Printed Boards with halogen free flame retardants in Radio Base Station products delivered to customer

› **2002**: Beryllium oxide phased out from new Ericsson designed products

› **2002:** First global ISO 14001 certification (on environmental management); Product take-back initiated

› **2003:** First lead free soldered products for Radio Base Stations delivered to customer.

› **2003:** Polybrominated Diphenyl Ethers (PBDE) phased out from use in Ericsson designed products

› **2005:** First long term energy targets published for RBS
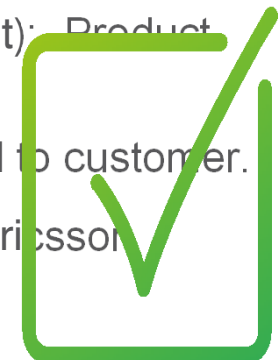
KEY MILESTONES (2/2)

> **2006:** All new Ericsson products are RoHS (Restriction of Hazardous Substances) compliant;

> **2007:** REACH implementation started; Tower Tube; BTS Power Save feature; Millennium Villages;

> **2009:** First Group-level carbon footprint reduction target and work initiated for cross-sector carbon reduction   potentials

> **2010:** Expanded our Environmental Policy to a Sustainability Policy

> **2010:** Co-founded Connect to Learn, a global education initiative

> **2010:** Ericsson joined with the Refugees United, the UNHCR and operator MTN

> **2010:** Ericsson along with the UNHCR and MTN joined the Refugees United project

> **2011:** Ericsson won a GSMA award for our Ericsson Community Power solution

> **2012:** Ericsson ranked top 3 on Greenpeace Cool IT Leaderboard

> **2013:** Ericsson won a GSMA award for Amazon Connected project

FOLLOW US!
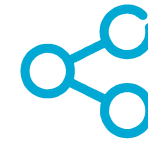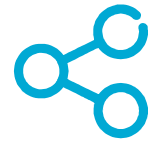
› [Technology for Good](#)

› [Ericssonsustain](#)

› [Sustainability Blog](#)

› www.ericsson.com/sustainability

A CONNECTED WORLD IS JUST THE BEGINNING

When one person connects, their world changes.

With everything connected, our world changes.

NETWORKED SOCIETY

THANK YOU!