

# Human Science & Communications

**Neal Tilley**

Business Development Director, Alcatel-Lucent

# ALCATEL-LUCENT: IN SUMMARY

## WHO WE ARE

A global company that makes communication networks more affordable, accessible and sustainable to realize the potential of the connected world.

## WHAT WE DELIVER

Communications networks that connect people all over the world, improving experiences and enhancing quality of life through network-based innovation.

## HOW WE DO IT

With sustainable innovation, deep expertise, a commitment to corporate responsibility and a singular focus on our customers' needs.



REALIZING THE POTENTIAL OF THE CONNECTED WORLD



2014 **2015**

**TABLETS** will eclipse PCs

**3 Bn** Mobile Broadband **Subscriptions**

# We have entered the POST-PC ERA

# 45%

of employees find personal devices more useful than enterprise ones

*Accenture*

# 90%

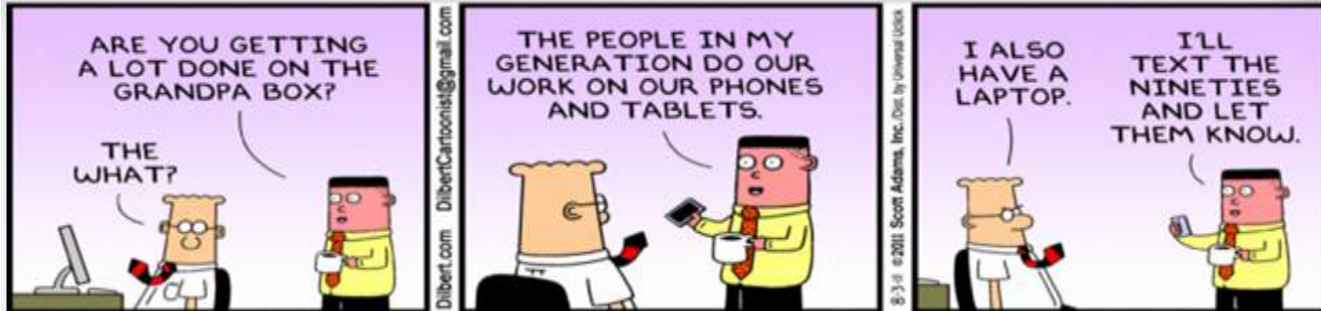
of enterprises will support corporate apps on personal devices by 2014

*Gartner*

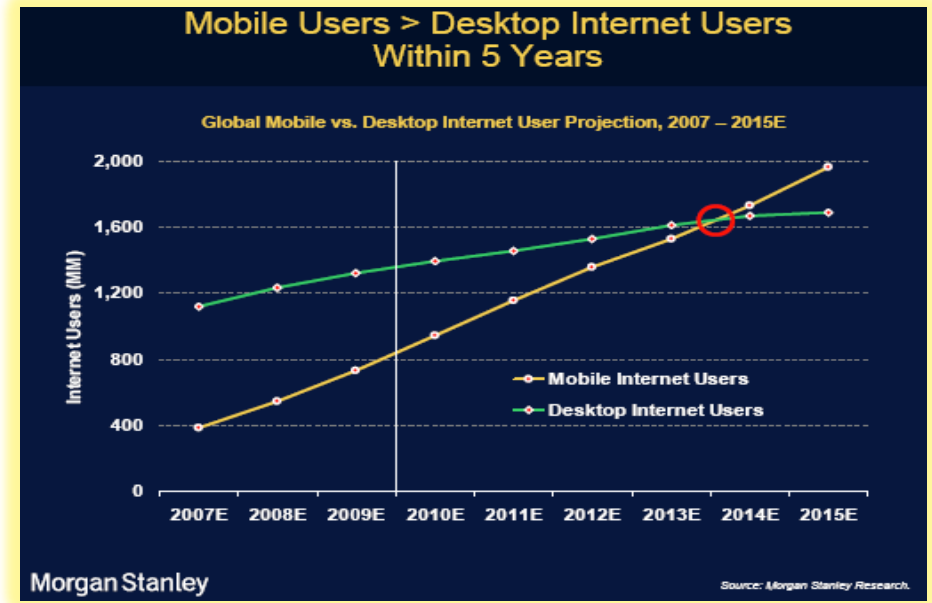
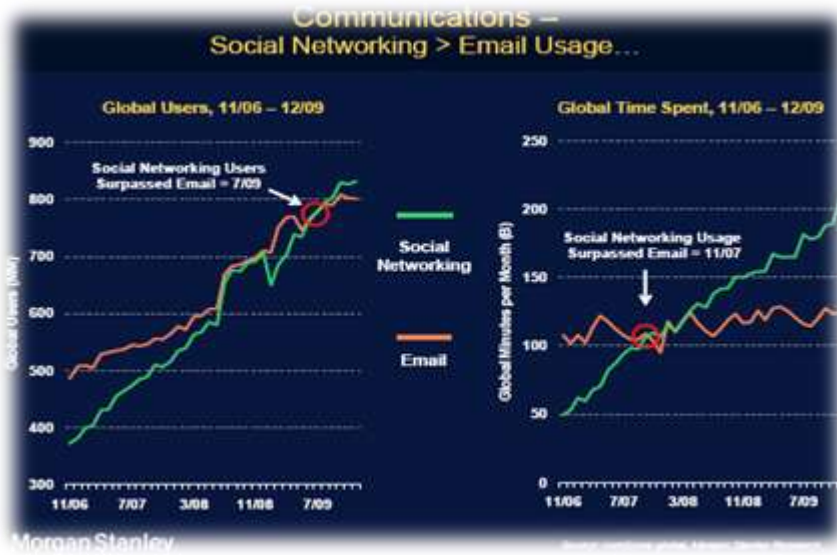
# 54%

Professionals say "always" use iPad for work communication

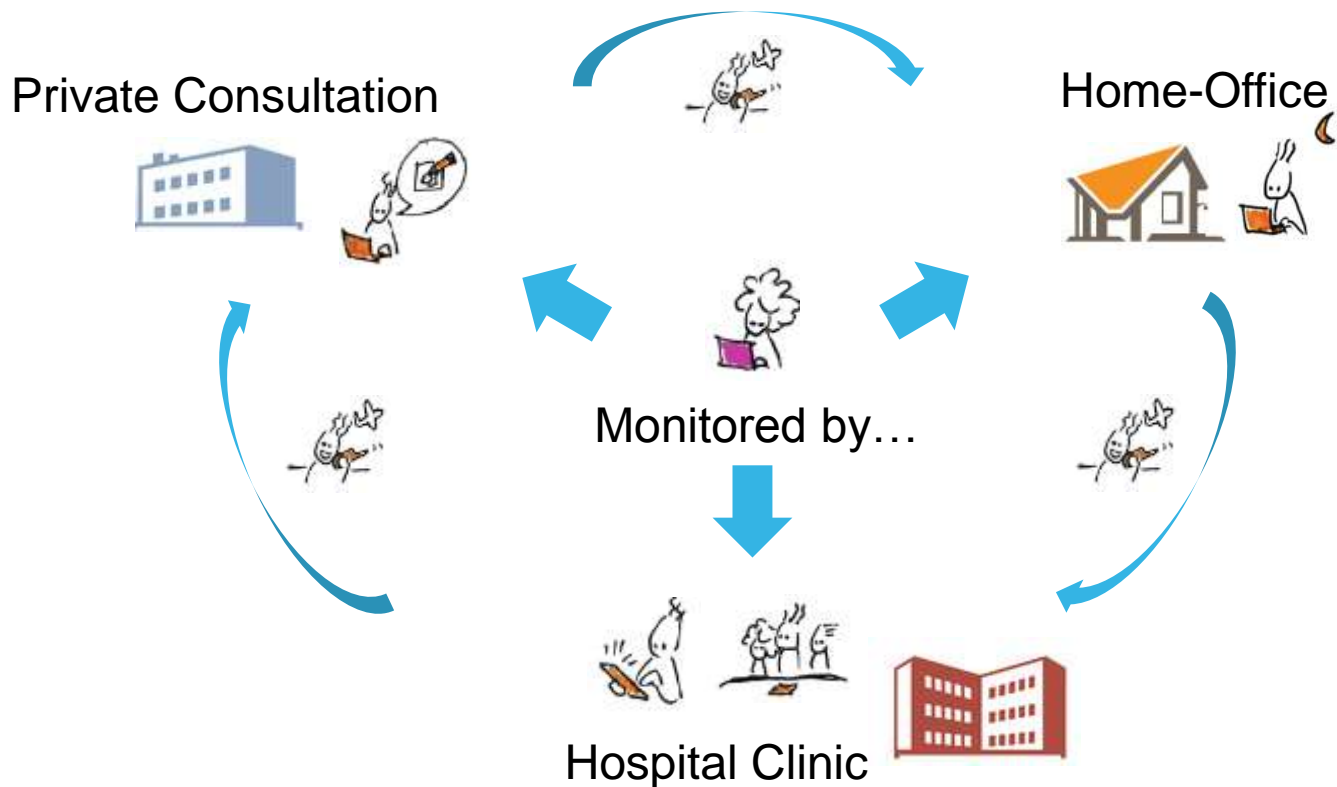
*IDG*



# Some interesting graphs...

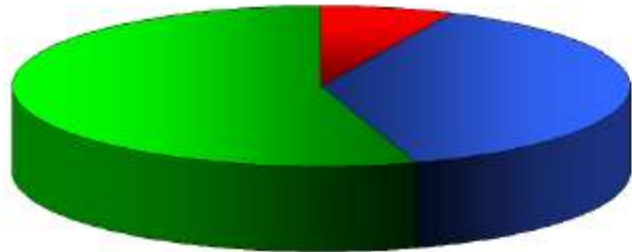


# So why is Human Science important?



# Human Science is evolving with technology

Immersive Communication and 7-38-55 rule



■ Verbal   ■ Vocal   ■ Visual

- Words, What you say(7%)
- Tone of voice, How you say them (38%)
- Gaze, Facial expression, Body language (55%)



Visual Information is extremely important for efficient communication

Current Video ≠ providing yet the solution, there is still huge potential for improvement

# Computer Vision techniques for face-to-face communication

---

## Face-detection:

- Selecting the right camera / video stream
- Re-framing of video stream
- Adapting data-transmission (ROI coding)



## Gaze-detection:

- To who or what is the person looking?

## Face-recognition:

- Meta-data of the speaker (name, contact info,...)



## Emotion/gesture-recognition:

- Who attempts to speak, who is agreeing?



# "WEATHERMAN"

## SlideWorld Testbed: SlideWorld for all Simple and Robust

- Usable for anyone : single app launch for multiple processes
- Limit multiple re-encoding and resizing: reduce delay, keep video quality
- Synchronize audio and video

### Lightweight setup

Mic

Kinect

Mobile Workstation

POLLUX Dedicated Room

### Result

Alcatel-Lucent



# In the future



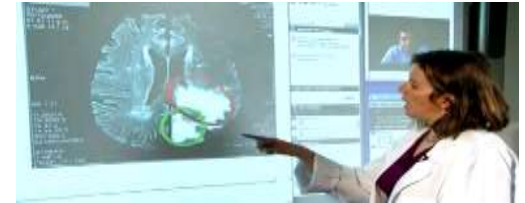
**Mobile Cart combining  
PC + video equipment**

**Patient & doctors  
@ Primary care**

**Urgentist**



**Video Conferencing System  
w/ Interactive Whiteboard**



**Neurologist (24/7 availability)  
@ hospital**

**The neurologist arrives in the video room  
He switches his session from his iPad to the whiteboard equipment**





[www.alcatel-lucent.com](http://www.alcatel-lucent.com)

