Smarter Home, Smarter City

April 21, 2018

Bellevue Neighborhoods CONFERENCE

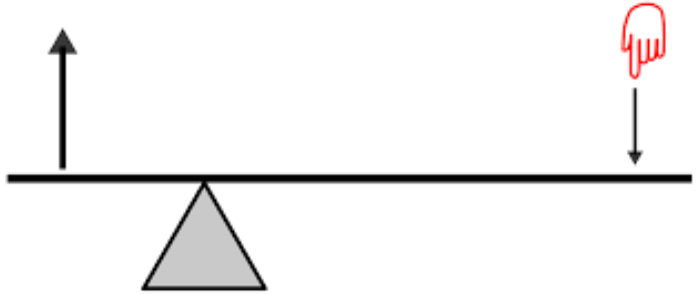
Welcome
Velkomin
Kaabo
Croesawu
добродојдовте
Sveiki
Bienvéni
Bonvenon
Selamat Datang
Acollir
Swagata
Recoger
Dobrodošli
Ongietorri
Velkommen
Sambut
Bienvenue
Ontvangen
Namaste
Yokôso
GnindiTonHap
Laukiamas
Qaimarutin
Swaagat
Tervetuloa
Fáilte
Siyakwamukela
Karibu
Khoshumadi
Tervetuloa
Goscic
Akwaba
Karibuni
Swagatham
Sugeng Rawuh
Vítejte
Ongietorri
Bienvenidos
Mirëpres
добре дошъл
Toivottaa
Welkom
Sannu da zuwa
Verweklom
Hozta
Murakaza Neza
Heten
Herzlich
Willkommen
Degemer
Kalosllthate
iBiala
Uvitani
Benvenuti
Merħba
Moguah
সবাগত
Benvingut
Bonavinuta
Hospedar
Witajcie
Woezor
Wëllkom
Dobredojde
EKomoMai
Maligayang Pagdating
Teretulnud
Ontvangen
Hwangyong Hamnida
Croeso
Bienvenius
MirëSevini
Vitajte
Bine ai venit
Hoan Nghênh
Bem-vindos
Laipni
Tere
добро дошли

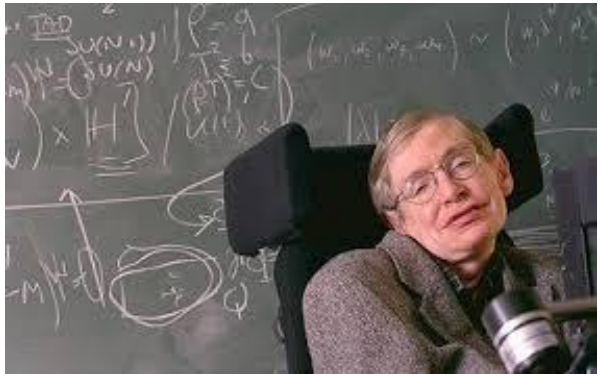
The Pace of Technology Change

Evolutions – Printing/ Musical Entertainment

What is Smart?

- Knowledge
- Intelligence
- Solutions to problems
- Wisdom



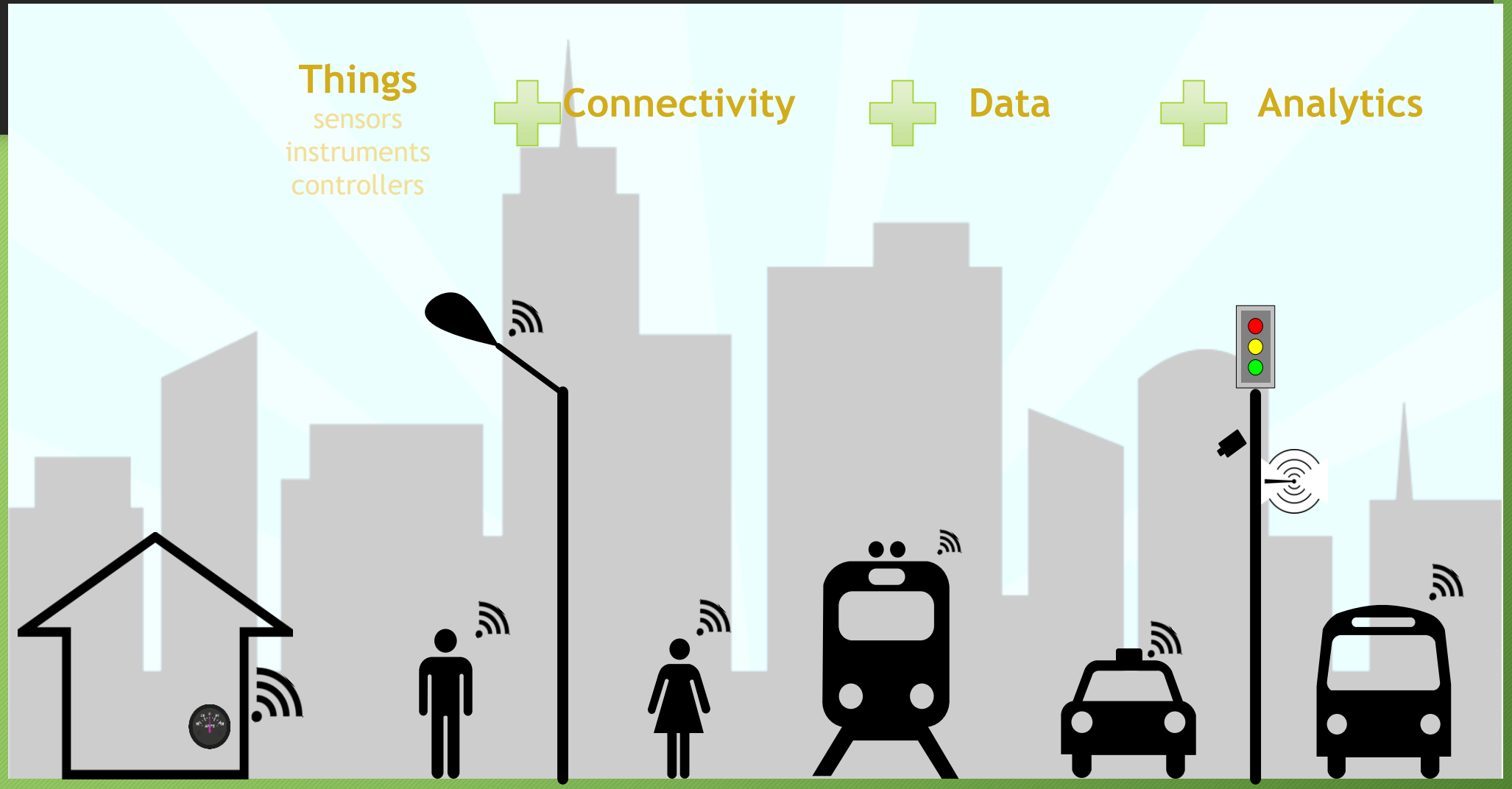


Why do we want Smarts?

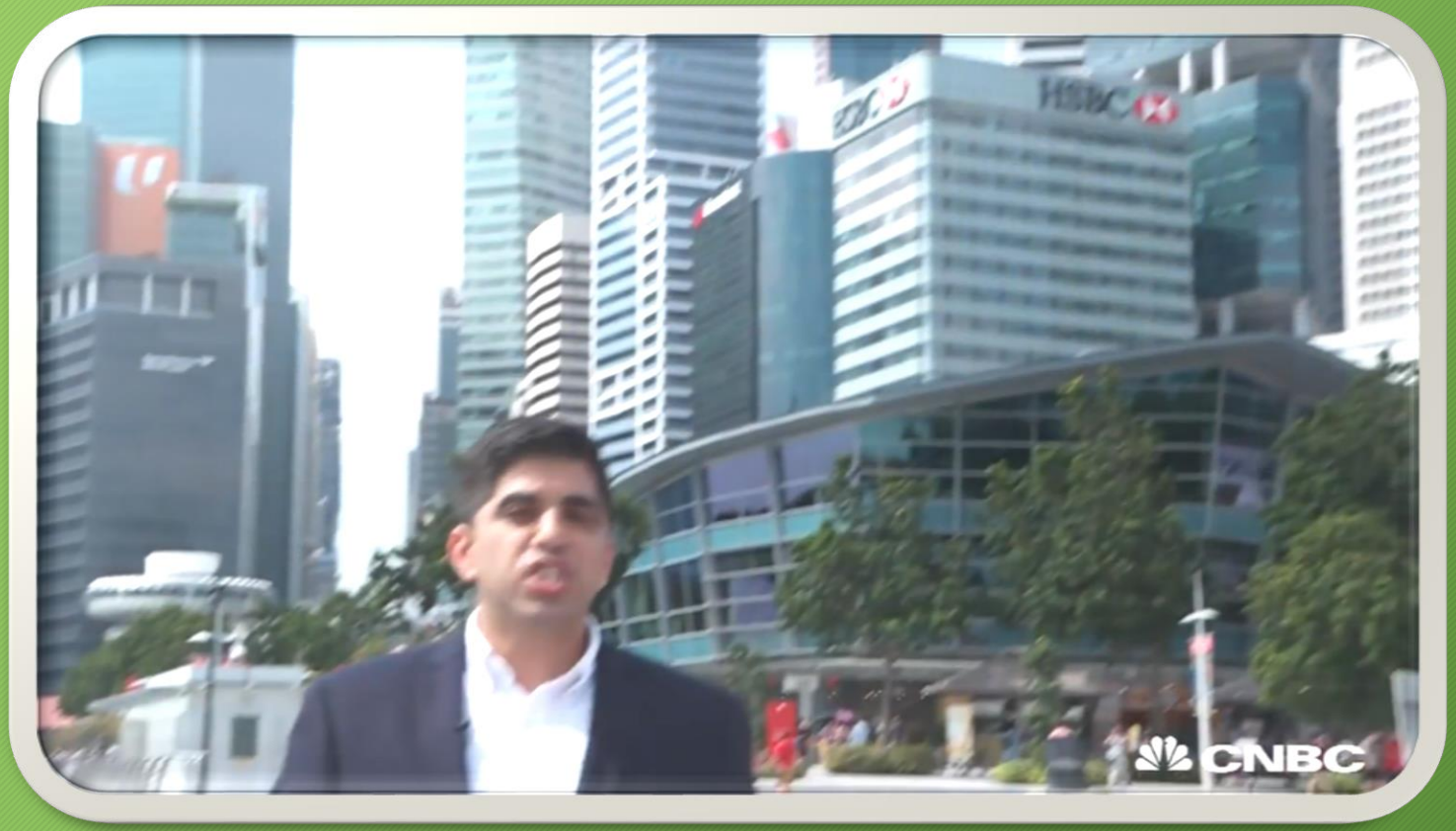
- Efficiency
- Be more effective
- Increase safety
- Reduce resource needs

- Bottom line – “Smarts” applied wisely create benefits or convenience.

What is a Smart City?



Global Activity in Smart Cities



Bellevue View of Smart City

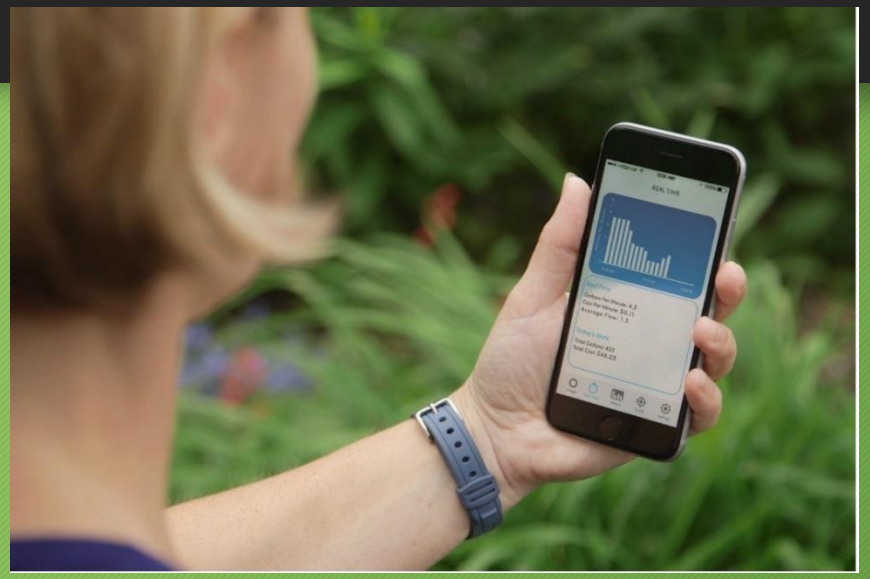
BELLEVUE SMART

Desired Outcomes

- Livability: safety, health convenience, quality of life
- Sustainability: reducing waste, increasing efficiencies, protecting the environment
- Resiliency: effective emergency response, faster recovery

AMI (Smart Water Meters)
Customers Expect Better Information on Water Use

- Customers can control water usage
- Proactive leak detection



Number of Jurisdictions with “Smart Meters” Are Growing Nationally and Locally

Jurisdictions with Smart Meters:

- Bellevue (gas, electric and soon, water)
- Sammamish Plateau Water & Sewer District
- Woodinville Water & Sewer District
- Renton, WA
- Yakima, WA
- San Francisco, CA
- New York, NY
- Cleveland, OH
- Tucson, AZ
- Corpus Christi, TX
- Houston, TX
- Salt Lake City ,UT
- Atlanta, GA
- Los Angeles, CA
- New Orleans, LA

Smart Homes

"A smart home, or smart house, is a home that incorporates advanced automation systems to provide the inhabitants with sophisticated monitoring and control over the building's functions."

Smart Home Energy UK

Create shopping lists; built-in cameras to see inside; set expiration dates for freshness; get recipes based on ingredients…

View visitors, steam video, save images, activate lighting; signal for help

Monitor and control multiple appliances, access weather, sports, music

Demand Manager

Putting the customer in control

HVAC

Water Heating

EV Charging

Washer/Dryer

Pool Pump

Lawn Irrigation

Demand Manager

Benefits for Customers and to Society

Benefits to Society

Efficient electricity usage during high demand times

limits less environmentally friendly power generation

Benefits for Customers

Allow customers to make prioritized decisions

around how much energy they use at any given time

Device Communication

The meter communicates with in-home smart devices to control home loads

App In Meter

Predicting usage demands

Load Control

Switches directly control & adjust demand

Home Energy Management

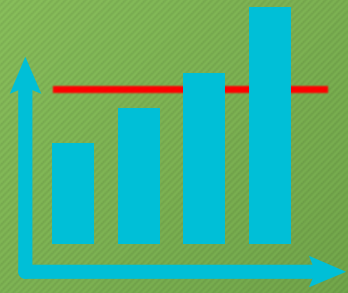
Consumers can remotely monitor & manage energy usage

[redacted]

Demand Manager

Putting The Customer In Control

1 Demand Manager Application runs on the customer's meter



2 Maximum Power Consumption Is Set
For example: 8 kW

3 Wireless Load control switches that are connected to your high energy appliances communicate with the meter to **switch off or throttle down power usage** as needed

Load Control Switches
Physically Connect to your Appliances

4 Interactive mobile and web tools provide members the ability to remotely monitor and manage their electricity usage

Power Consumption Limits Can Be Overridden At Any Time

Technology can be convenient, but there are limits

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