The Future?

Many-to-Many

or

How We Learned to Stop Worrying,
and Love Human Restlessness

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HART *intercivic*™

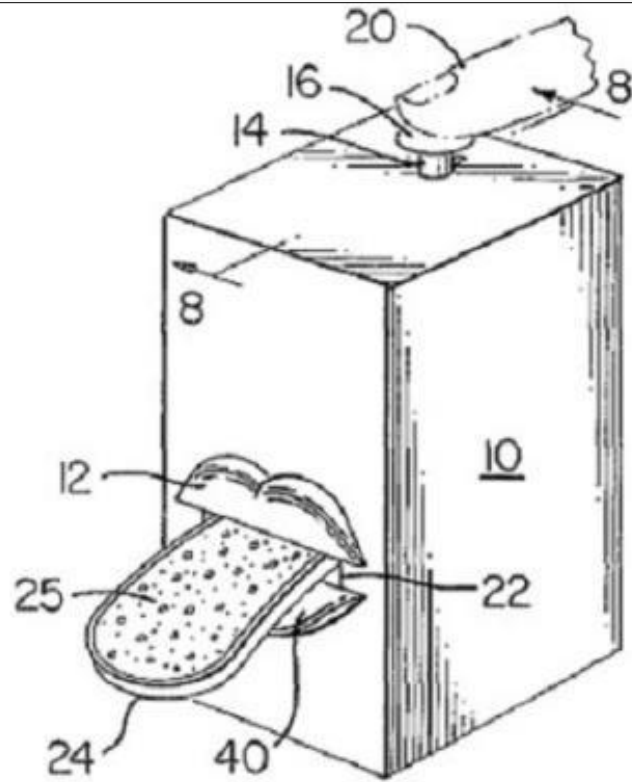# 1. the approach

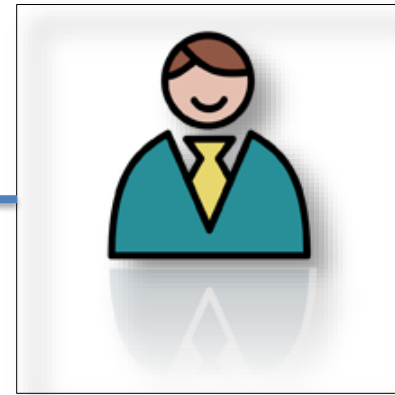focus on the human needs

FIG. 2

human-centered design

focus on human needs
usability, adaptability, transparency

assume that humans
will be fickle and creative

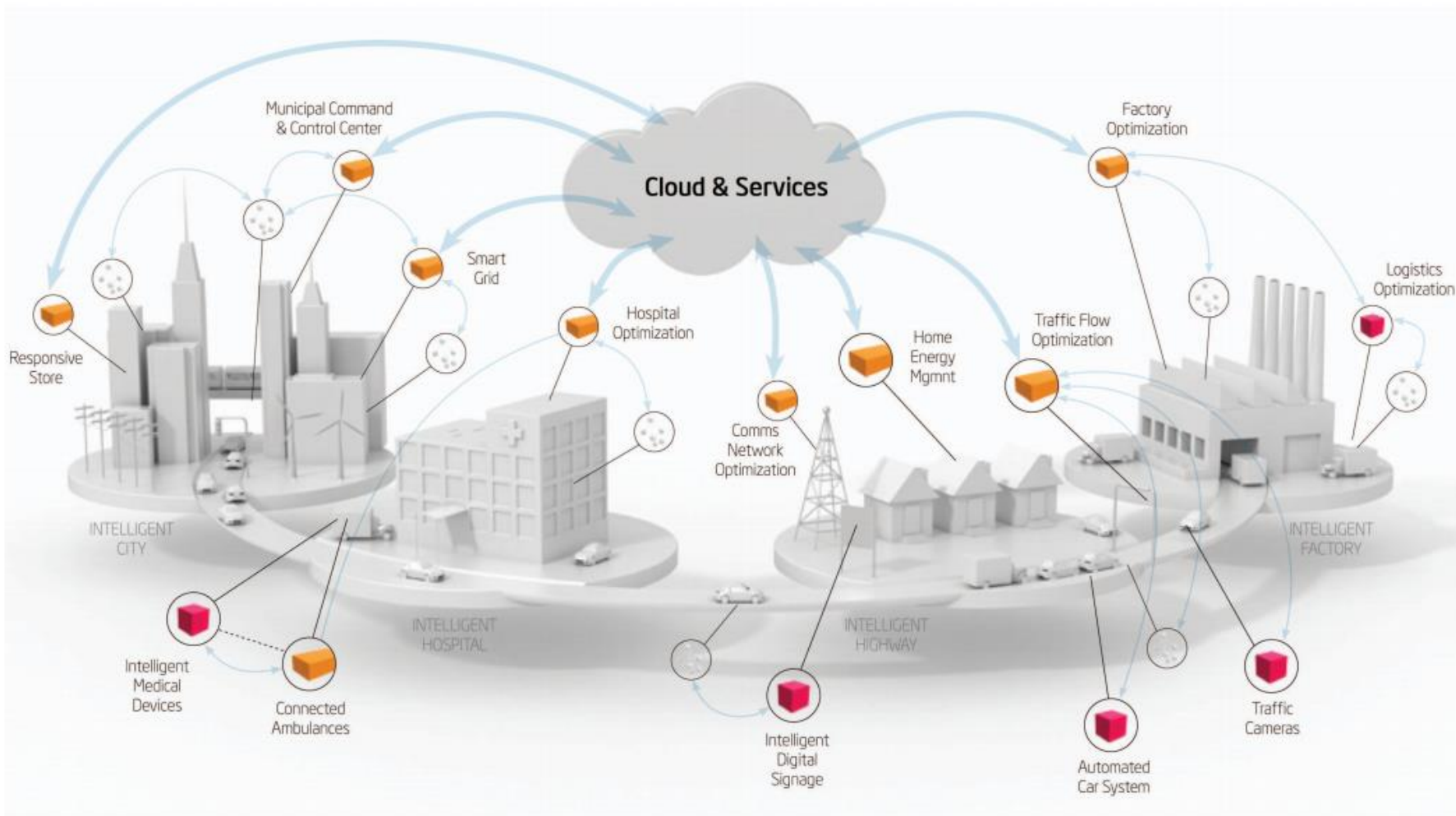and try to get ready for that

2. the solutions

many-to-many

The next logical step in the technological revolution connecting people anytime, anywhere is to connect inanimate objects.

This is the vision underlying **the Internet of things**: anytime, anywhere, by anyone and anything.

- International Telecommunication Union, Geneva, 2005

Municipal Command & Control Center

Cloud & Services

Factory Optimization

Smart Grid

Logistics Optimization

Responsive Store

Hospital Optimization

Home Energy Mgmnt

Traffic Flow Optimization

Comms Network Optimization

INTELLIGENT CITY

INTELLIGENT HOSPITAL

INTELLIGENT HIGHWAY

INTELLIGENT FACTORY

Intelligent Medical Devices

Connected Ambulances

Intelligent Digital Signage

Automated Car System

Traffic Cameras

many-to-many

more participation, more devices, more modalities

Information Technology & Innovation Foundation

- **Home-based** access
- **Use home computers** to download & mark ballots
- **Online rating systems** for polling places, like "Yelp"
- **Online voter education profiles** for receipt of VEO materials in different formats
- **Online polling place accessibility** information
- **Ridesharing** to facilitate carpools to voting locations
- **Barcodes** to transfer voting choices
- **Drive-thru voting**
- **iPad/Tablet voting**
- **Smartphone apps**, to enable mobile voting from anywhere in the world

- **Remote voting** options
- **Portable election "kiosks"** in care facilities (e.g., tablets)
- **Online interactive voters' guides**
- **Automated deadline reminders** via phone, text or email (absentee ballots, Election Day voting)
- **Use familiar technology** to vote (phones, ATMs, televisions)
- **Online wait times** for polling places
- **Mobile voting vans**
- **Online poll worker training**

usability
adaptability
transparency

access
innovation
openness

3. the challenges

catching up to the pace of change

Getting the standards in line with innovation

Diversity of devices vs. flattening thrust of complex standards

Fewer configurations, or many?

Getting our laws in line with innovation
Laws can either support or restrict new methods of participation

Changing outdated/unusable ballot designs

Voter access (registration, convenience voting, etc.)

Allowing new kinds of technology

Right-sizing the technology
Competing values – access, security, usability, cost, etc.

Recommendations - Technology

1. **Certify what's necessary – no more, no less**. Enlarge & clarify distinction between "election management" vs. "voting system."

2. **Facilitate the use of cost-effective transferable technologies.** Allow the incorporation of more commercial-off-the-shelf hardware, in a traceable, safe, cost-effective way, without requiring full re-certification.

3. **Devise procedures for software modifications.** Consider methods to safely and reliably enable incremental changes to be made to certified software applications (i.e. de minimis changes).

4. **Leave design to the technologists**. Aim for standards that do not over-prescribe specific solutions, which can increase cost and complexity; identify problems to be prevented, rather than specific implementations.

usability
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**technology
by the many,
for the many**
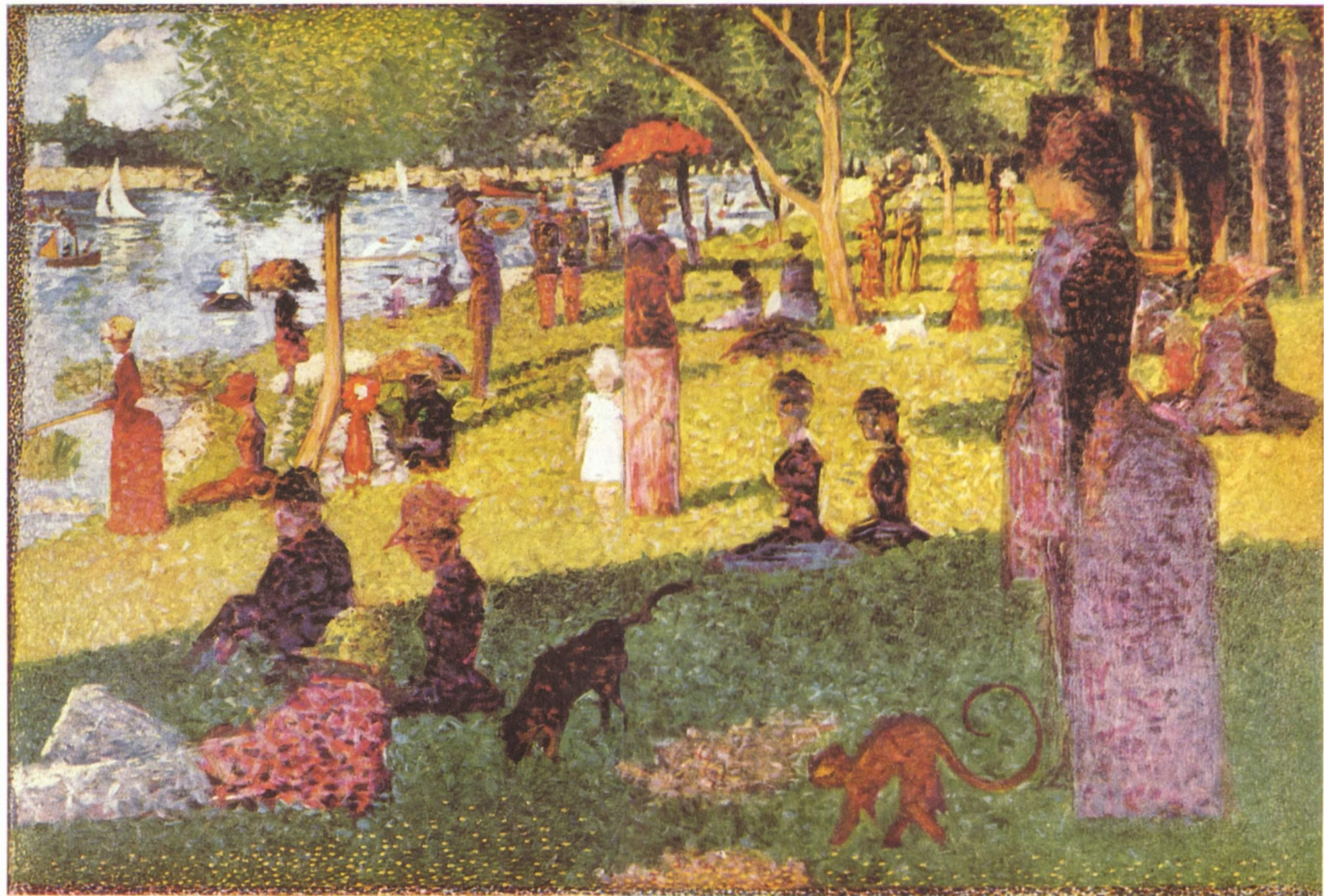
many is a beautiful thing

thank you

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