

Top Ten Challenges of Securing Smart Infrastructure

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I am Niloufer Tamboly

I am a risk management professional and help companies manage risk, execute cybersecurity strategy and accept risks appropriately based on quantified risk appetite.



I am the organizer of the largest cybersecurity career MeetUp group. Since 2012, I've coached IT professionals transition to a career in cybersecurity.

Connect with me on LinkedIn!

Why Do I Care?

IDC's Worldwide Semiannual Smart Cities Spending Guide: *Worldwide spending on technologies for smart cities projects will grow to \$135 billion by 2021*





What is smart infrastructure?





Smart Watch

Now you can track your health at all times!

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Medical Support 24/7

- Available for iOS and Android

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smart house

The smartest house
security system
on the market.

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*Usability,
not Security,
is the focus*

Can't identify or predict users environment

- ▶ Smart devices are ubiquitous so it is difficult to identify or predict the users environment.



▶ Participants

People

The User

Shared Responsibility

Process

Vendor Diversity

Security Operations

Integrated Architecture

Systems

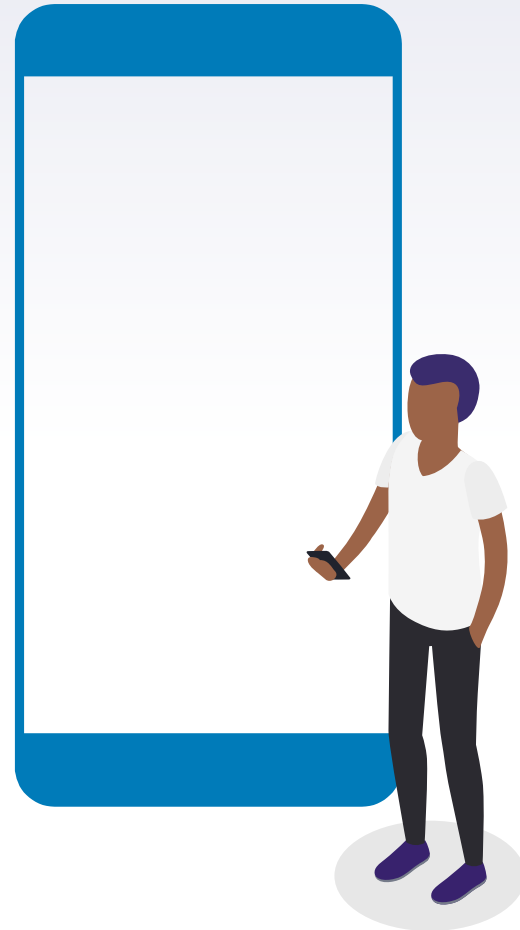
Resilient network

Smart Infrastructure May Not Be Critical Infrastructure

- ▶ Identify the critical information and the infrastructure because they may not be easily apparent.

▶ Devices Are Mobile

- ▶ Due to the small form factor, devices are mobile and not all supporting infrastructure may be secure.



Not All Smart Devices Are The Same

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Hardware Security

- ▶ Cost, Data, Life of Device Considerations
- ▶ How much security can you expect from a \$10 device?
- ▶ What type of data is stored, processed and transmitted?



▶ Using Standards of Yesterday

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- ▶ This includes mistakes made years ago, but were only recently discovered or disclosed which can have big implications in the future.

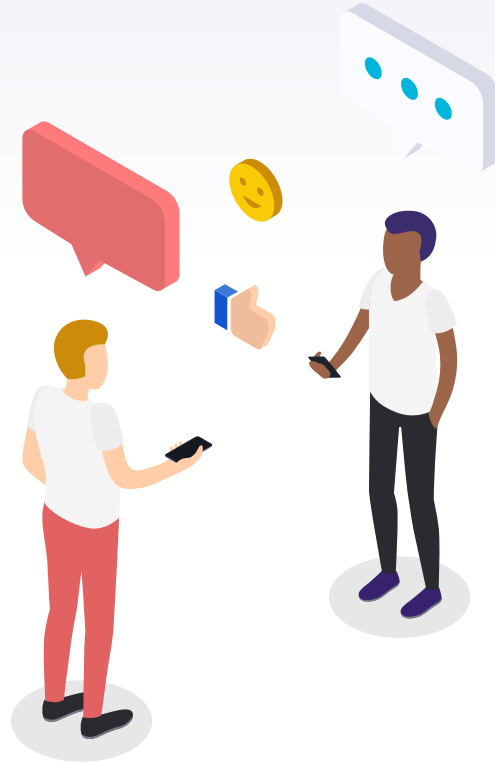
High Level of Customization

5



► Increased Connectivity

4



▶ Evolving Threats

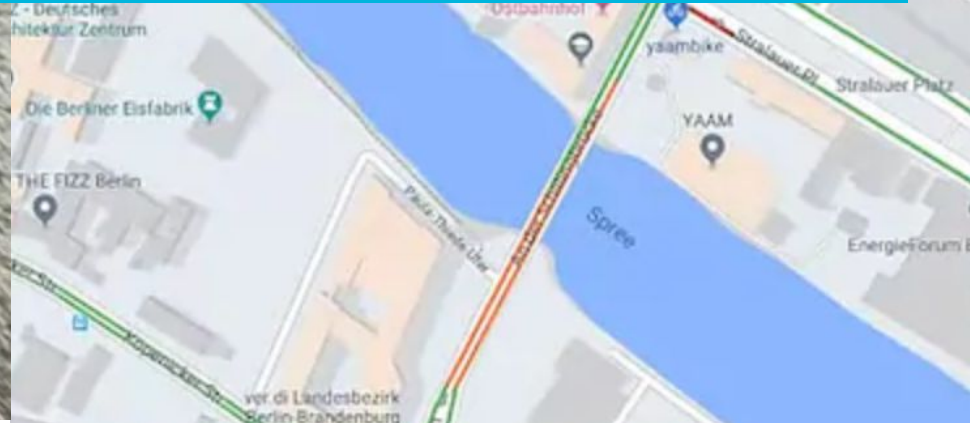
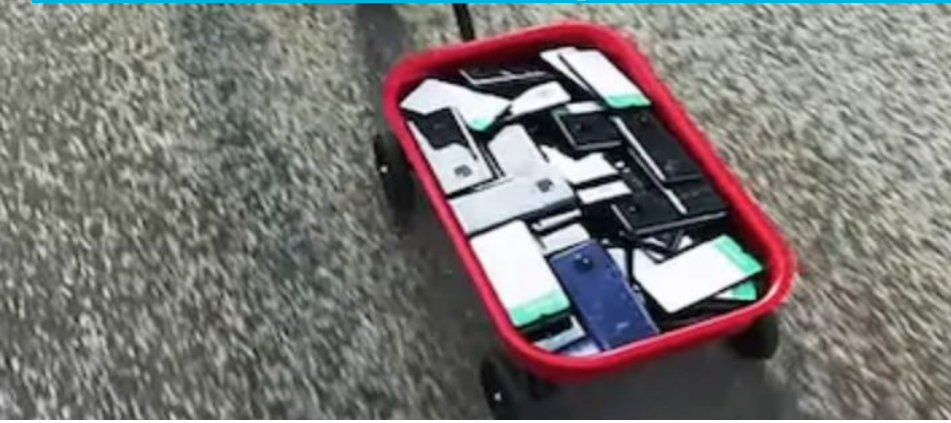
- ▶ New threats come up once a product is released.
- ▶ Unknown unknowns





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Sensor Security - Google Maps Fooled by Man Who Used 99 Smartphones to Create a Fake Traffic Jam



Customer Engagement

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- ▶ Educating the customer and making them aware and engaged for security



What Can We Do?

- ▶ Encourage users to participate
- ▶ Apply patches, firmware updates timely
- ▶ Secure physical access to build a defensive environment



Credits

Special thanks to all the people who made and released these awesome resources for free:

- ▶ Presentation template by [SlidesCarnival](#)
- ▶ Illustrations by [Sergei Tikhonov](#)
- ▶ Photographs by [Unsplash](#)