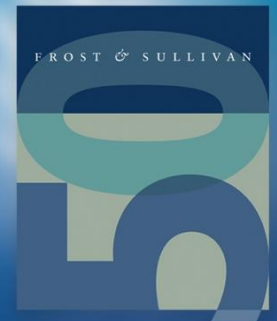


Safe Cities

*Digital Transformation and its Impact on Collaboration,
Communication and Response*



Defining a Safe City

Safe City is an extension of a Smart City – connection of sensors and systems which will enable more efficient operations.

Safe: Protected from or not exposed to danger or risk; not likely to be harmed or lost

How do we measure Safe?

Perceptions?

Stats; Crime, Floods?

Risk or Threat Levels?

Effectiveness of Response and

Contingency Planning?

How do we improve Safety?

Prevent

Planning

Collaborate

Communicate

Review

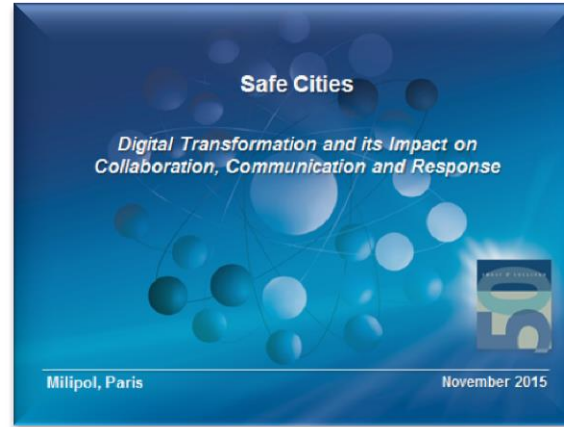
Technology Progress is Rapid

Technologies and applications talked about today weren't on people's minds 5 years ago



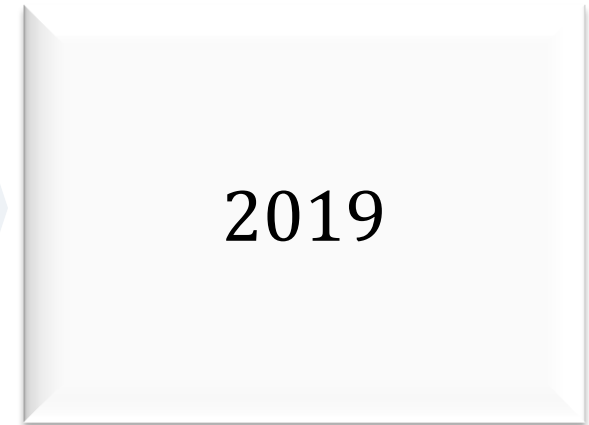
2011 Themes

- Video Analytics
- PSIM (Physical Security Information Management)
- Crime Mapping
- Centralised City Command & Control



2015 Themes

- 4G LTE Public Safety
- Apps
- Wearable Devices
- Big Data Analytics
- Internet of Things
- Intelligence (web, communication...)



2019 Scenario?

- 4/5G
- IP enabled devices becoming ubiquitous
- Data storage gets cheaper
- Crime changes

Top Transformational Shifts that will Shape Safe Cities to 2019

Collaboration, Connectivity and Automation will continue to be key themes for the next 5 years



Internet of Things



Managed Services



Connected Citizens



Machine Based Learning



Wearable Devices



Unmanned Systems



Intelligence



Biometrics

Internet of Things

What is IoT in the context of Public Safety?

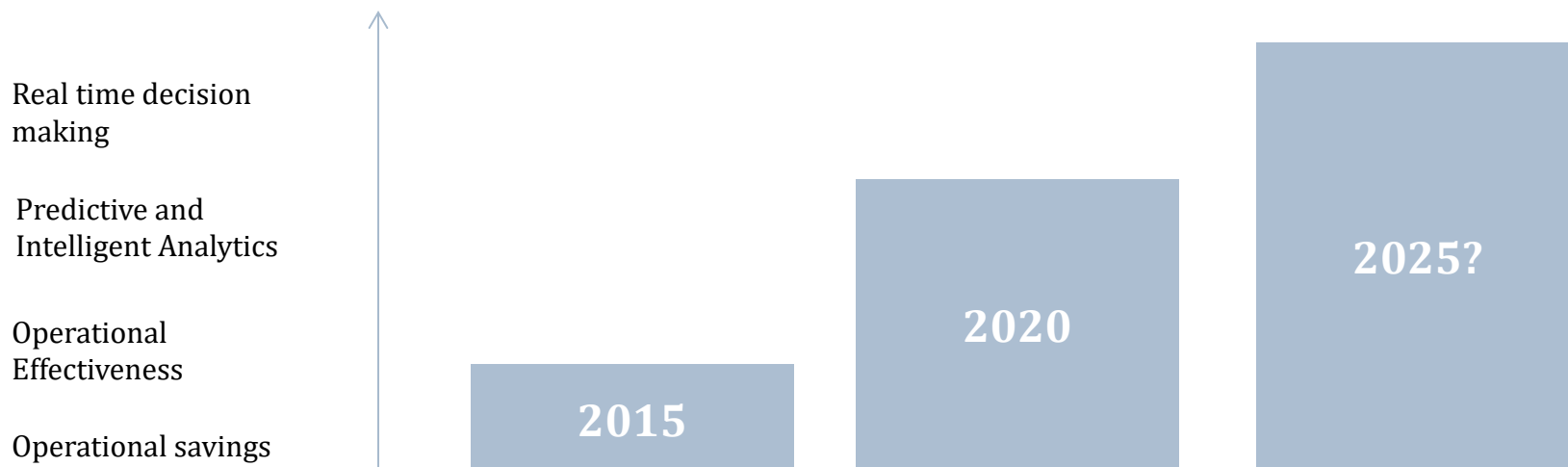
Report by the President's National Security Telecommunications Advisory Committee

Strengths of IoT

- Ubiquitous sensing
- Increased productivity
- Speed and accuracy of information
- Ability to immediately affect targeted change in the physical world

Opportunities for IoT

- Real-time NS/EP operational efficiency
- Expanded situational awareness with interoperable systems
- Economic revenue growth
- New functionality
- Rethink end-to-end system security and resiliency



Internet of Things

Smart devices are an essential part of the IoT taxonomy. Today the business case is built around time saved.

Police force	No police officers	Staff with mobile device	Officer hour benefit assumptions
Sussex & Dorset	2,847 1,301	50%	20% increase in officers on patrol, from 4 hours 29 mins to 5 hours 22 mins/ day
Surrey	1,970	36%	Implies 1/7 th of officer/staff time saved overall, but no explicit assumptions
West Yorkshire	5,062	100%	10% less officer time in office based on 40:60 office:street split – ie 4% overall
S Yorkshire & Humberside	2,767 1,771	55%	2 hours per officer/CSO per day switch from office to car/foot
Metropolitan Police	30,398	50%	37 minutes per officer per shift
Merseyside	3,909	28%	1 hour per officer per shift per day

Internet of Things

The future business case will include improved situational awareness.

Cambridgeshire Police.

Objectives:

- To provide a 21st Century policing Solution
- Enable business transformation
- Enhanced Federated System Searching
- Improve Data Quality
- To improve efficiency and function

The Solution:

- Universal Microsoft application
- Modern User Experience
- Real time information access
- Event Hub that control can task officers and give a common platform for information sharing

Phase 1:

- Digital notebook that can take video, images and signatures
- Record Events
- Around me awareness of emerging situations
- Ticketing
- Evidence



Phase 2:

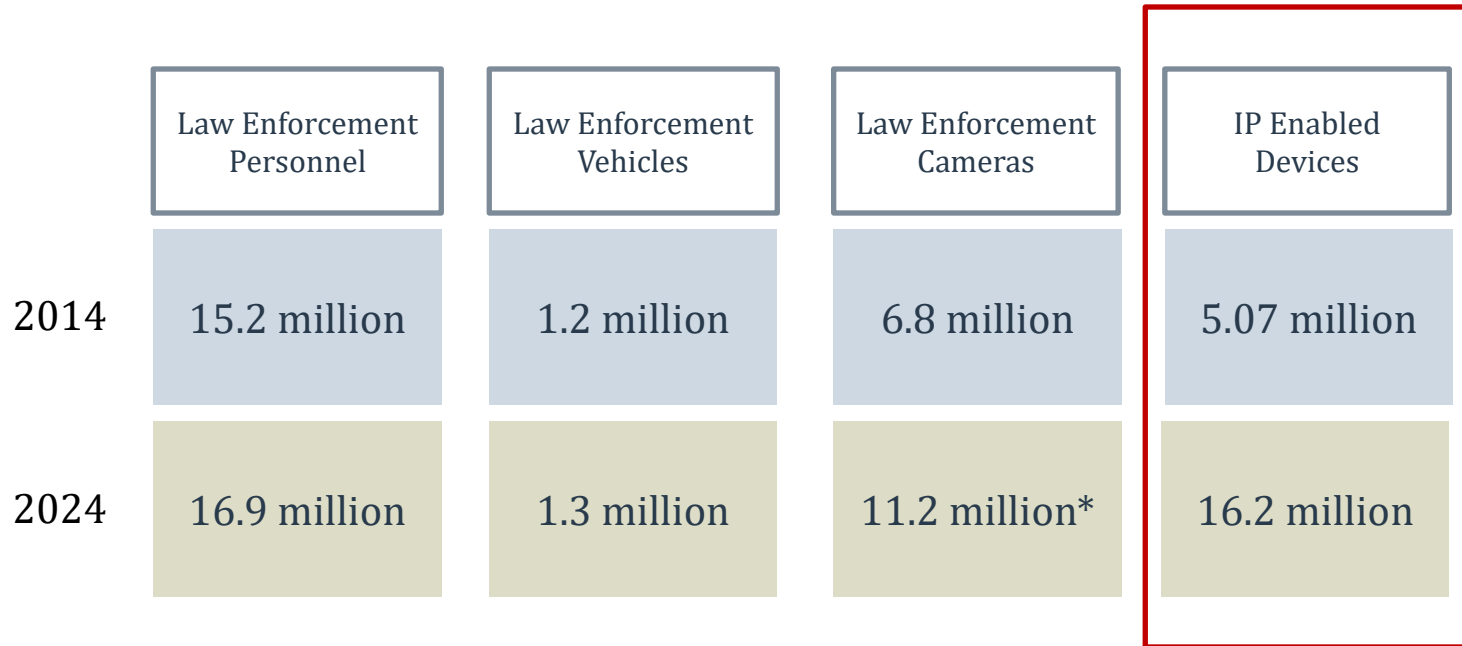
- Body worn integration – live streaming
- Remote camera access
- UAV through applications
- Translation Services
- Unified Communications Integration

Output: Increase in operational hours

Save the office 1 hour for every 10 hour shift. This equates to 74 hours per shift and a saving of £860 extra a year that can be reinvested into local policing.

Internet of Things

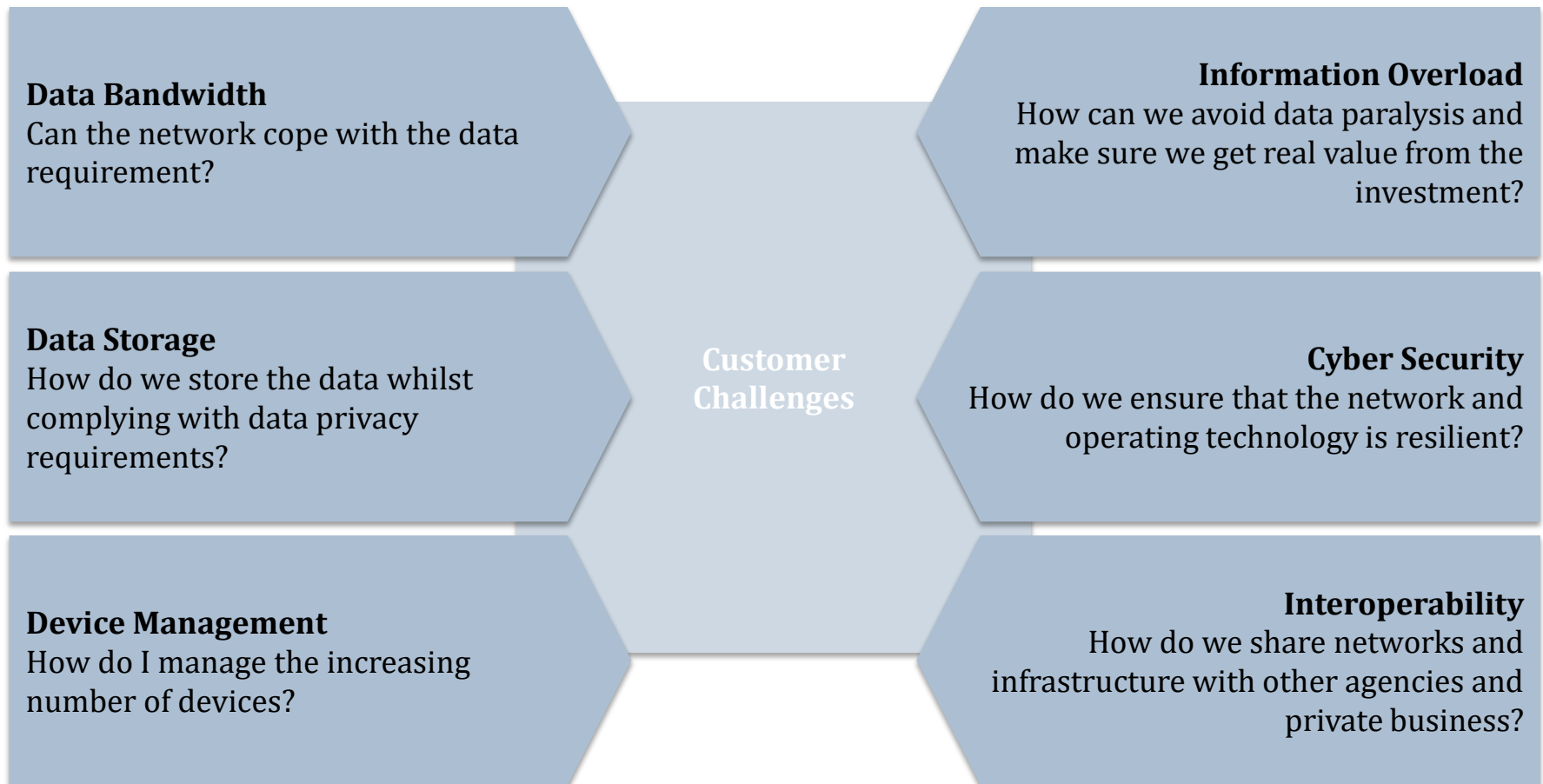
The growth of internet enabled devices will transform policing operations as devices grow. The benefits will also create challenges.



Customer Technology Challenges

6 critical considerations for public safety IoT networks

Larger networks and increasing connectivity will increase the risk of vulnerability and will lead to increased demand for;



Data Storage and Cost

Technology and edge based solutions won't solve the data storage conundrum

“20,000 cops all streaming video for 5hrs a day will generate 95 petabytes of video per year. How do you come with a policy that discards the 99% of that which is of no interest ? ”



Increase Data Centre?



Share IT and Data Infrastructure?



Migrate to the Cloud?



Amend Information Policy?

The increasing amount of data requires a mixed strategy with a focus on the future data requirement and user scenarios. This will lead to an increased demand for safety and security managed services. Information management will also become a stronger market.

City Challenges are not only Technological

Technology adoption is showing early returns but challenges remain from transitioning from legacy IT systems to next generation IT and communication

Initiating Change	Handling Change	Implications of Change	Future Change
Budgets and Cost Benefit Analysis	Transitioning	Training & Education	Recording and understanding benefits
Legacy Systems	Impact on Operations	Changes to Operational Procedures	Building a Plan for the Future
Agency Collaboration	Agency Collaboration	Agency Collaboration	Agency Collaboration

Business Models

New business models will allow agencies to manage transitioning plans, ensure the latest technology is available and to focus on core policing and operations

Outsourcing of core IT requirement and move to the cloud



Managed Services

Success based models



Risk Based Models

Develop systems and tools with vendors



Technology and IP share

Rewards based on achieving KPIs



Performance Contracting

Summary

- International, national and local policy all influence city safety
- Technology is a key enabler but it evolves quickly; tackle the problems today, plan for the future
- Transparency. Privacy is a personal and emotional subject. Governments needs to be bold and transparent.
- Engagement and collaboration with local communities is challenging but vital. Technology can improve interaction
- Business models will evolve and managed services will become an increasing necessity.

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