



M2M Adoption in Asia

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Industrial Process Controls

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Focus Points

- About Frost & Sullivan
- The M2M Business Case
- M2M in Asia

Who We Are

- A **global growth consulting company** that partners with clients to support the development of innovative growth strategies.
- For more than 44 years, we have leveraged our **comprehensive market expertise** to serve an extensive clientele that includes Global 1000 companies, emerging companies, and the investment community
- We offer **industry research and market strategies**, provide **growth consulting** and **corporate training**, and support clients to help grow their businesses.



Key sectors of operation: We understand a wide variety of key industries and downstream applications

Chemicals

Agrochemicals,
Specialty Chemicals,
Fine Chemicals,
Performance Materials,
Food Ingredients

Industry

Energy, Utilities,
Environment,
Industrial, Electronics,
Oil & Gas

Transportation

Automotive
Transportation Systems,
Logistics,
Railway Systems

Technology

IT Security, Enterprise
Software,
Smartcards, Terminals,
Telecoms, Mobile,

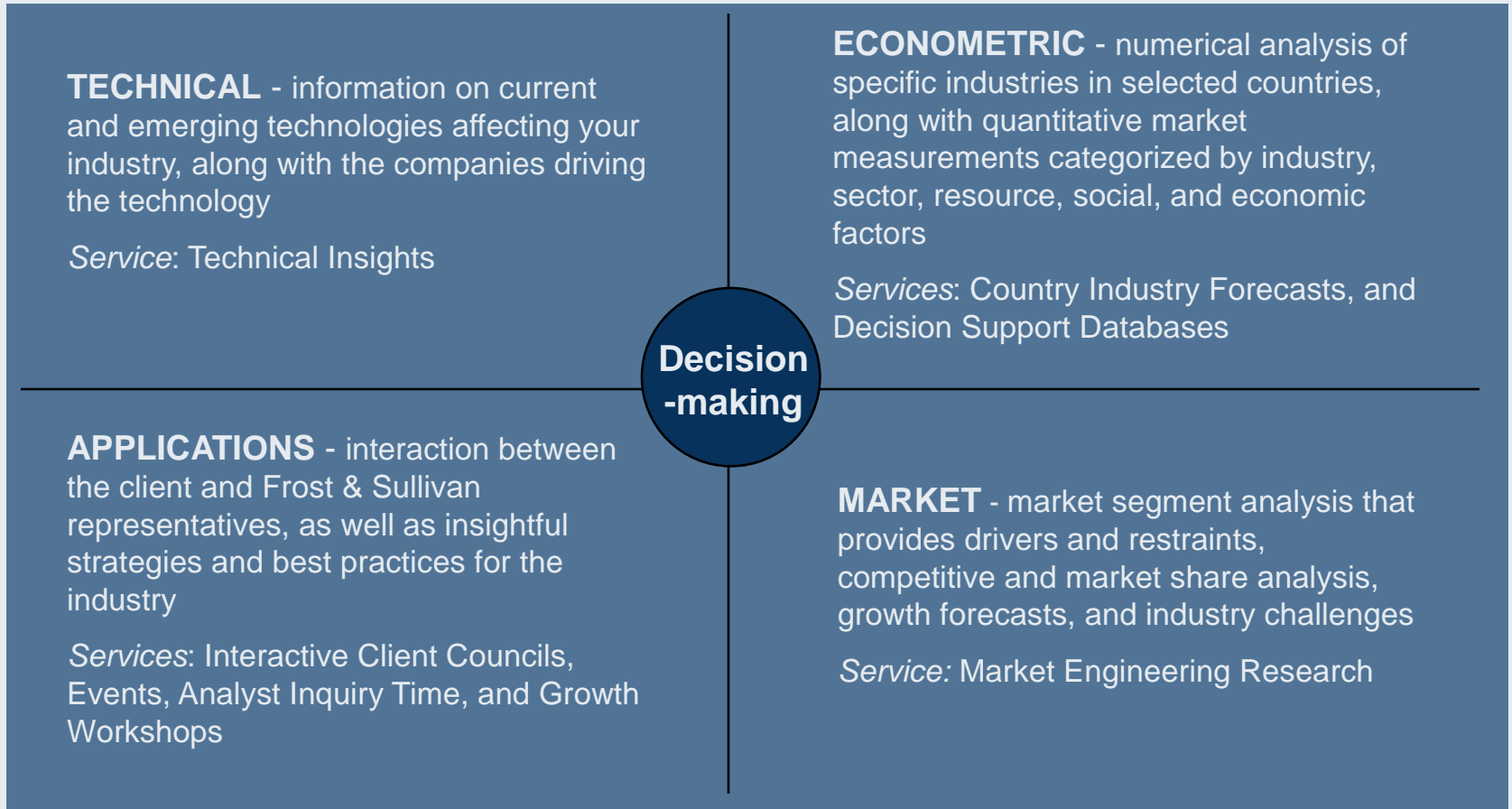
Aerospace & Defense

Battlespace IT, C4ISR,
Satellites & Space
Military Aerospace,
Training & Simulation

Healthcare

Medical Systems, Medical
Devices, Drug Discovery &
Diagnostic Technology,
Pharmaceuticals

We apply the T.E.A.M approach to help clients achieve a balanced view of the market and make informed strategic decisions to achieve their growth objectives.



Global Perspective



North American Offices

- San Antonio
- Silicon Valley
- New York
- Manhattan
- Toronto

South American Offices

- Buenos Aires
- Mexico City
- São Paulo

European Offices

- Paris
- London
- Oxford
- Frankfurt
- Cape Town

Asian & Oceania Offices

- Beijing
- Kuala Lumpur
- Shanghai
- Singapore
- Sydney
- Tokyo
- Seoul
- Mumbai
- Chennai
- Bangalore
- Delhi



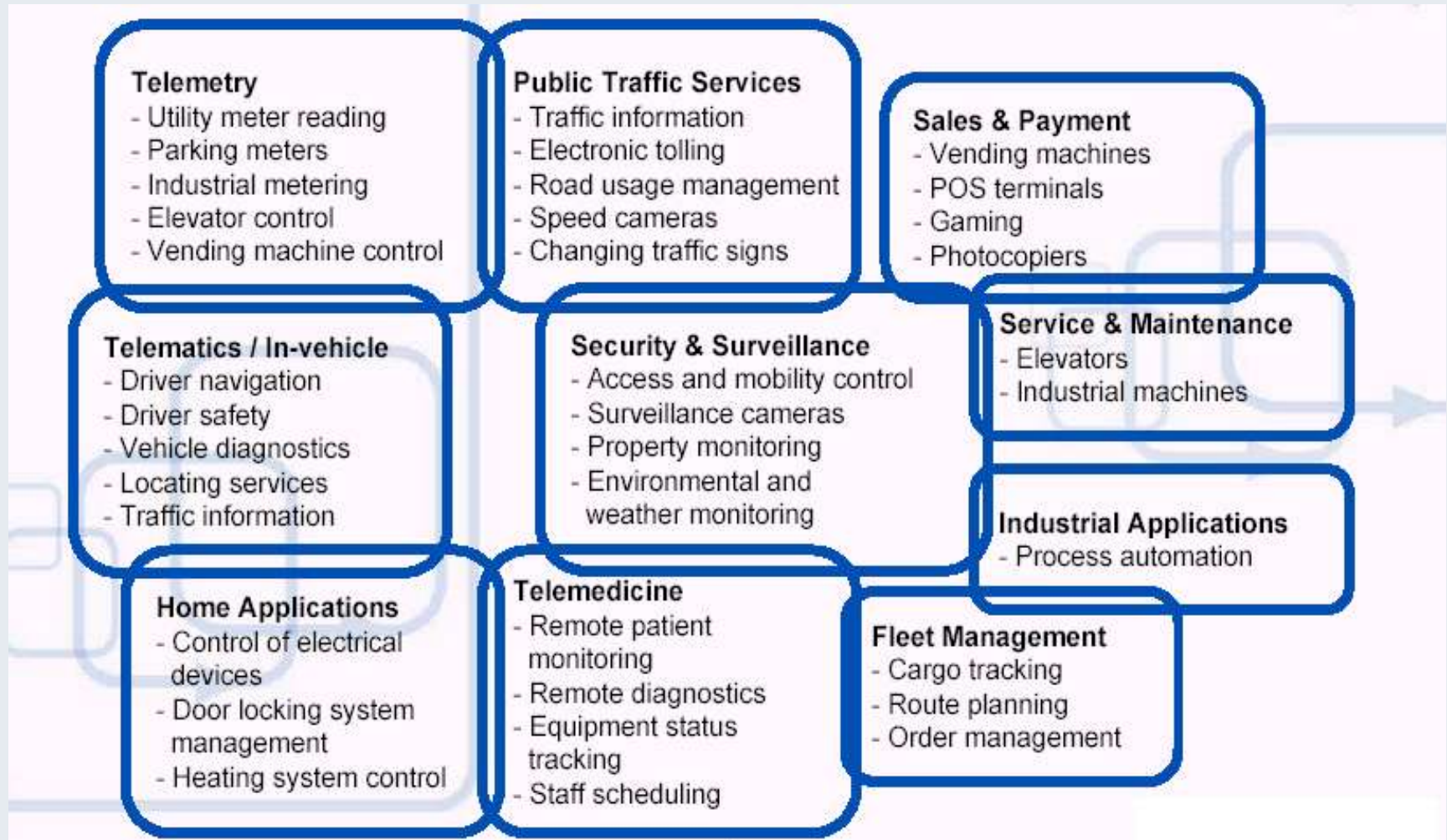
Focus Points

➤ About Frost & Sullivan

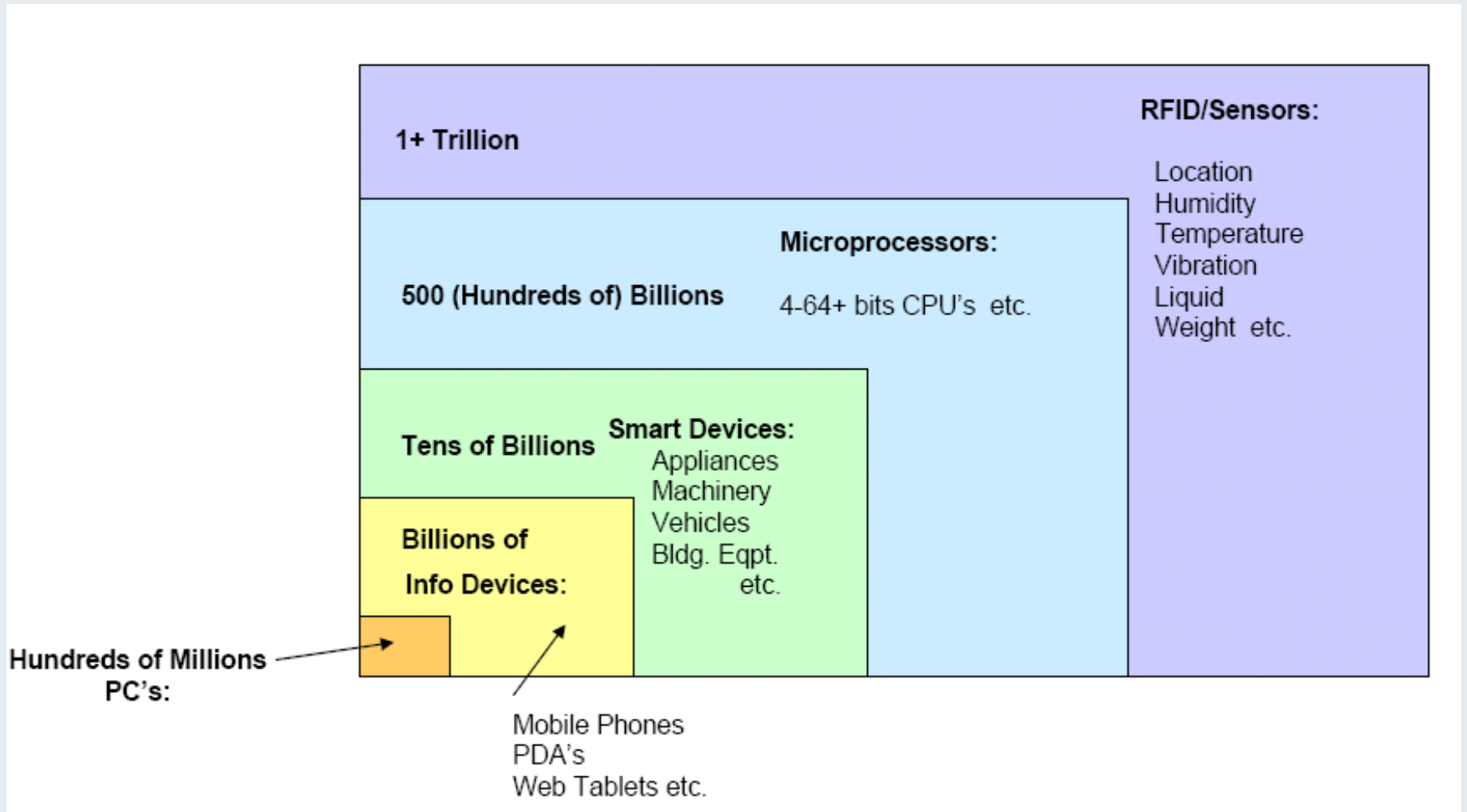
➤ The M2M Business Case

➤ M2M in Asia

Current M2M business applications are seen in



And the potential applicability is beyond imagination



Indicators of the future which would affect M2M

- ❖ Sensing and connectivity costs will reduce dramatically over the next decade
- ❖ The Internet will see trillions of connections and only a fraction of them would be human
- ❖ Virtual Enterprises and communities

Key Business Drivers for M2M

- ❖ Provide a competitive edge through differentiation – in service, productivity and responsiveness
 - ✓ Must significantly improve on current processes

- ❖ Companies should see the ROI
 - ✓ Decisions would always be business driven
 - ✓ Should be inline with long term strategy and business goals

Key Business Drivers for M2M

- ❖ Gain new Customers and create increased Customer loyalty
 - ✓ Must impact channel strategies
 - ✓ Create Value Add

- ❖ New revenue generating streams

..... so its not only about technology

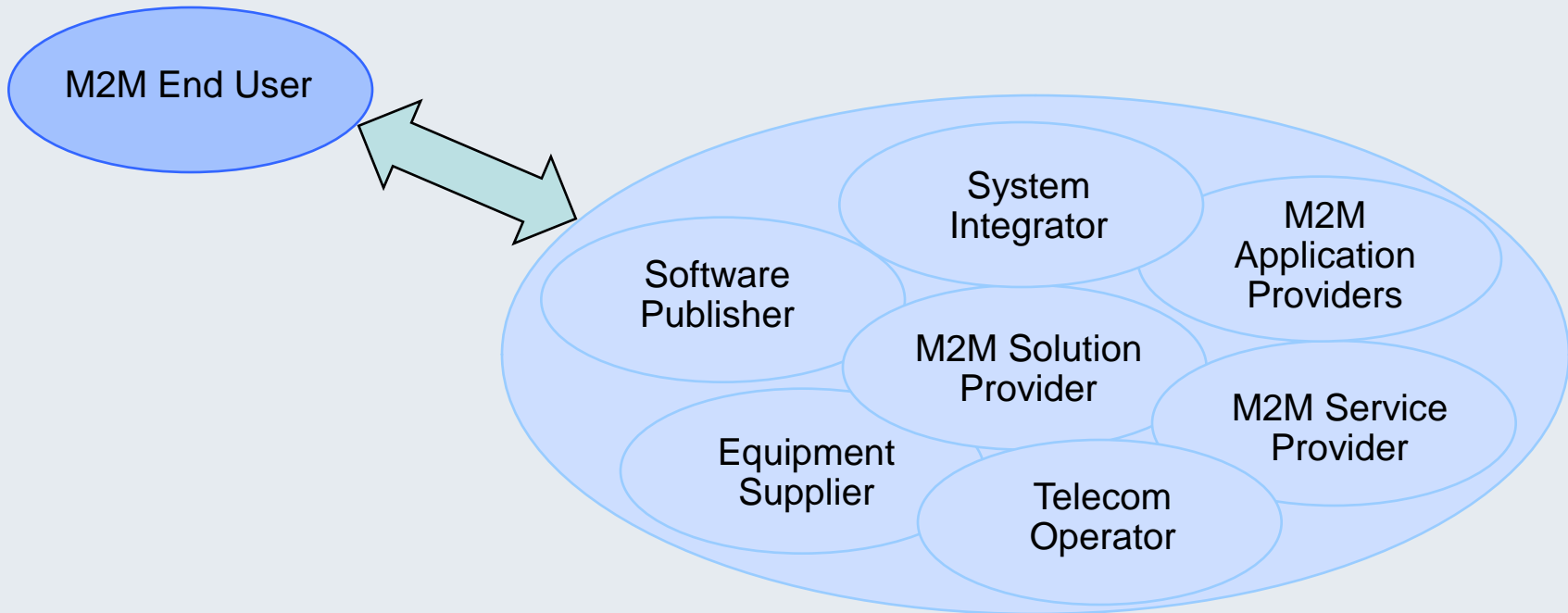


The good news is that the Business case for M2M is no longer be like this.....



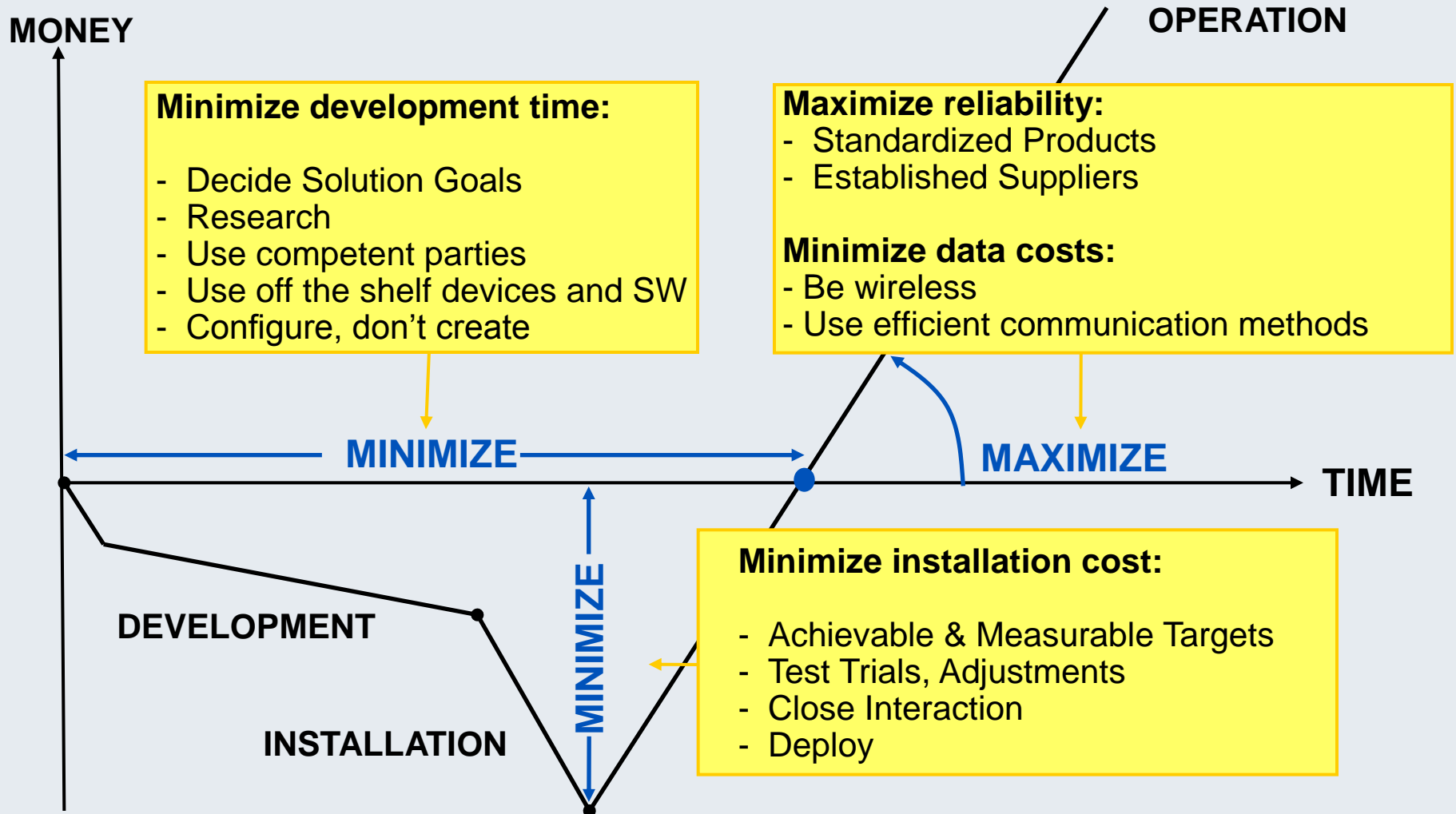
The Business Case for M2M will become increasingly simpler in the future

A. Collaborate to Provide Solutions



Companies must provide business solutions to Customers by integrating suppliers for M2M equipment, network connectivity, systems integration and application development and support.

B. And maximize the ROI



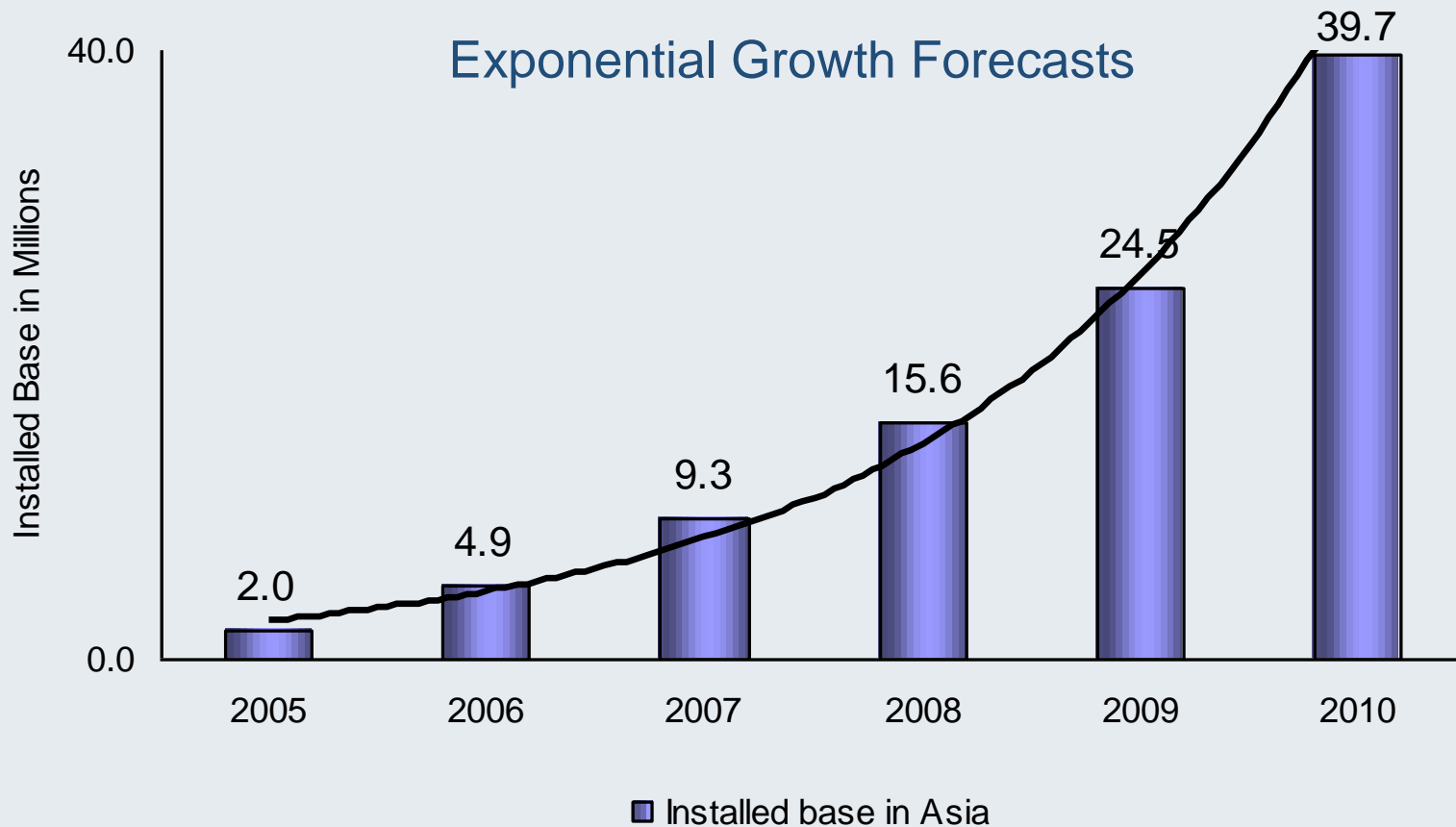
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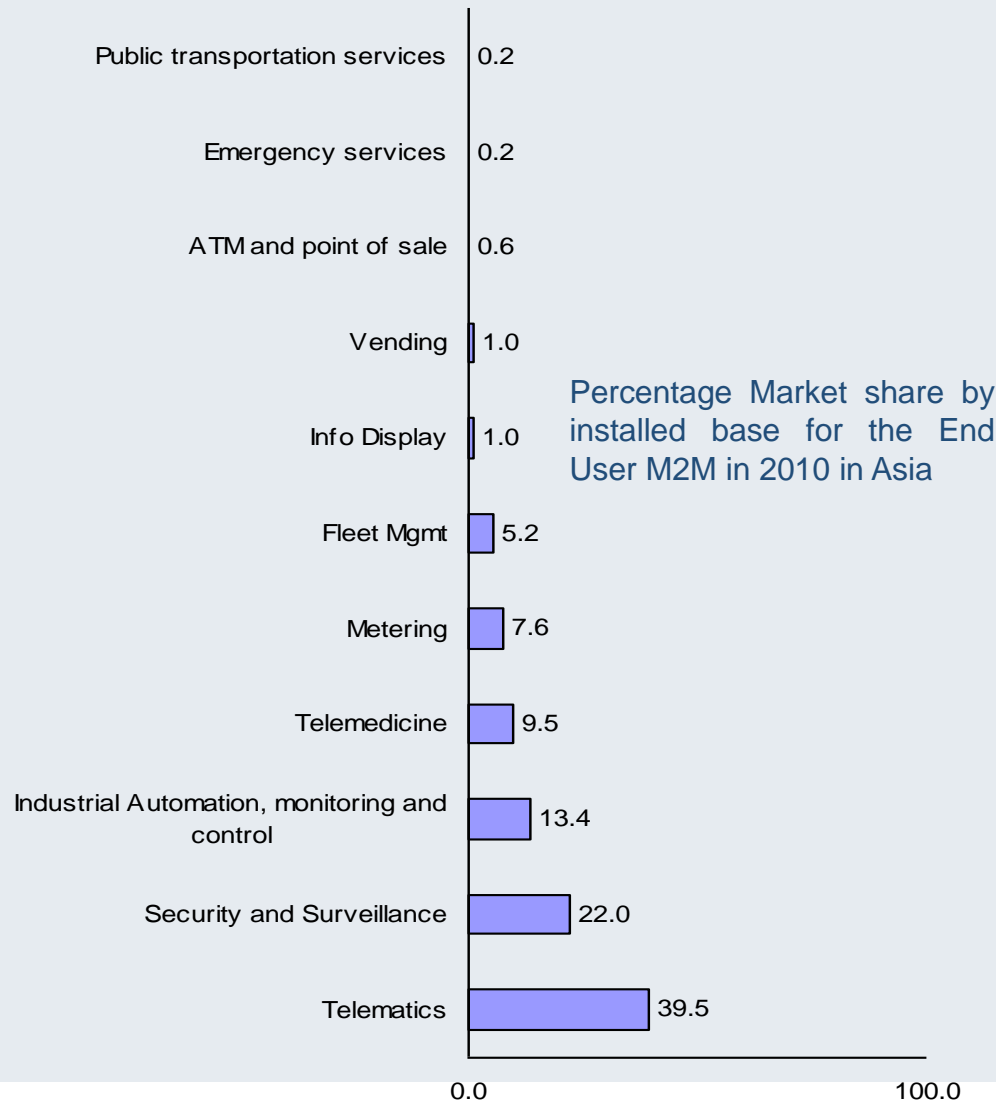
M2M Market Characteristics

- Highly Fragmented
- M2M is only now emerging into the mainstream
- Project sizes are small and 1st or 2nd level in scope
- Large Players are now becoming serious about the potential.
Still wait and watch approach
- Pilot projects and success stories are emerging

M2M Installed Base Projection in Asia

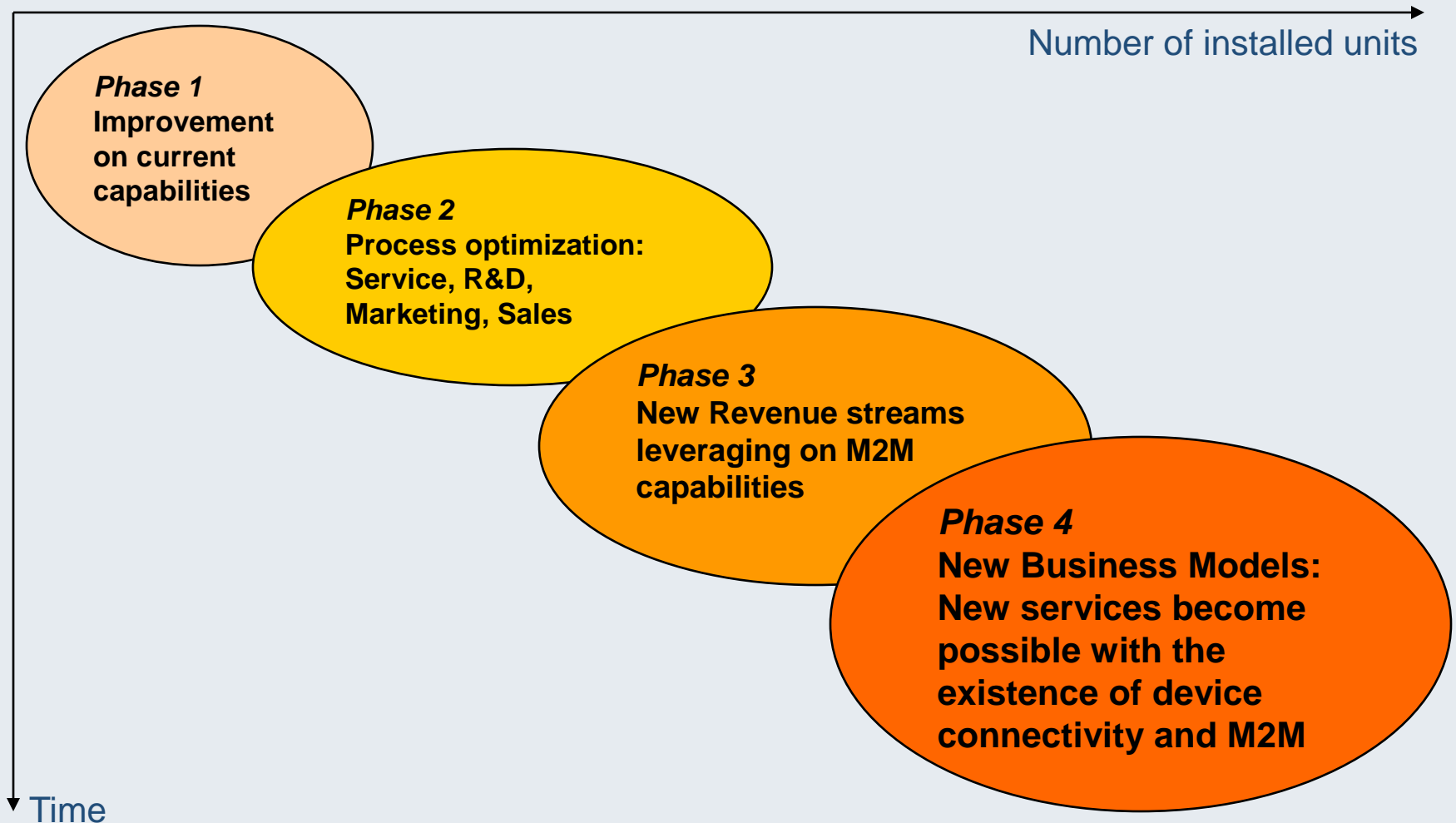


Adoption of M2M across End User Segments

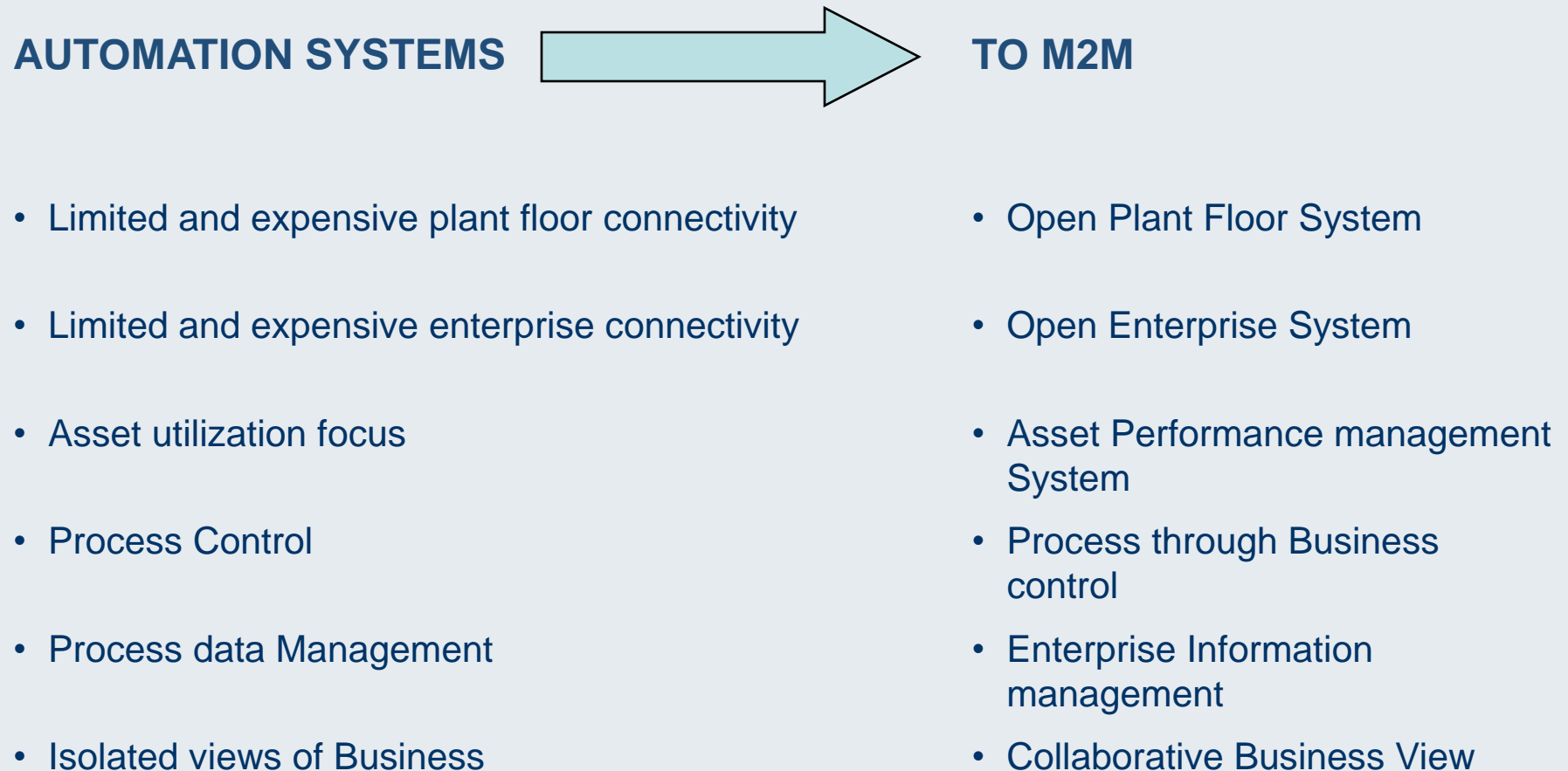


- Segmentation by application projected for 2010
- M2M already increasingly used in Telematics, Fleet management, emergency services and public transportation systems
- Adoption of M2M in the remaining segments will take off by 2007 with strong growth in the security and surveillance, telematics and industrial automation

Possibilities with growing M2M Adoption



M2M Impact on Process Control



M2M Impact on Process Control

Implementation of M2M technology will:

Provide low cost information access

- Plant floor information access
- Enterprise information access

Provide platform for business improvement

- Asset Performance Management
- Extending closed-loop control to business
- Any solutions can be implemented cost effectively

Provide high-productivity environment

- Application building and reuse
- Knowledge sustainability engine
- Control strategy building and reuse

Provide enterprise visibility

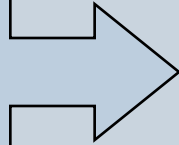
- Make plant visible to business and business visible to plant



M2M Technology Enablers and Solutions



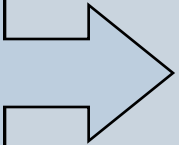
Remote machine and equipment diagnostics



Hardware:
Sensors and microprocessors deployed at the asset level



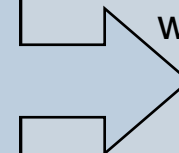
Conversion of asset data to knowledge



Software:
applications to capture, synthesize and
Make operational business data



Remote asset maintenance and repair functionality



Connectivity:
wired or wireless infrastructure to enable machines to communicate with enterprise systems and with each other



M2M Enterprise Model

OBJECTIVES

- Increase Revenues
- Reduce Energy Expenses
- Reduction & Improvement of Maintenance
- Regulatory Compliance and Safety
- Deliver Attractive ROI

DRIVERS

- Faster Resolution times expected across end-user industries
- Service enhancements with M2M advantage
- Customer Warranty compliance
- Device Miniaturization

M2M ENTERPRISE MODEL

CHALLENGES

- Misalignment of business requirements with tech. capabilities
- Poorly Defined business processes
- Cost of M2M hardware and software

RESTRAINTS

- Wait and See attitude prevalent in Asia
- Limited budget for new technology implementation
- Lack of awareness of M2M capabilities

Key Competitive Factors



Competitive Niches in the M2M Market

- Contributors who participate in a collaboration with different companies resulting in a M2M solution function

Emergence of M2M specialists who collaborate with these participants

- Integrators who apply M2M to traditional services and embed them into products

Example: Smart Printing Services

- Companies who provide services around the entire lifecycle of existing products

Example: Equipment monitoring, managed services

- Companies who integrate sales, services and customer interaction with the product

Example: Advanced driver assistance programs already deployed in Europe

Summary

- M2M technology will take off by 2007 and be established in Asia by 2010.
- Conclusions
 - Asian M2M market will reach almost 40 million in installed base by 2010
 - Telematics will remain the no. 1 application of M2M
 - M2M implementation in process control and enterprises growing to 13.4% of all installed base by 2010.
 - Creation of new business models and competitive niches with growing M2M adoption
- Companies in the face of this revolution must
 - consider re-engineering manufacturing processes to include M2M readiness
 - Reevaluate existing processes and look for ways to leverage M2M solutions to drive improvements and profitability.

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THANK YOU

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