

MAJOR TRENDS THAT WILL LIKELY AFFECT YOUR BUSINESS

Identifying Opportunities and Constraints

Professor Julius J. Chiavaroli, RA
Rochester Institute of Technology
Department of Architecture

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MARKET SCANNING

- American business is great at hitting the bulls eye, unfortunately it is often the wrong target.

MARKET SCANNING

- Market or environmental scanning is the process of continually and actively monitoring the external environment in order to identify customer needs, anticipate competitive actions, and, identify technological changes which will provide new market opportunities or market disruptions. Note the emphasis on the word active. This is not something that should be done passively or on an exception basis. Companies must constantly be probing and exploring the external environment to identify significant changes and explore competitive activity.

MARKET SCANNING

- Macro Level – the general environment
- Industry Level
 - Construction
 - Concrete masonry
- Company Level

MARKET SCANNING

How?

- Sales Force Intelligence
- Customer Feedback
- Purchasing Intelligence
- Market Research

MARKET MODEL



Source: Whitewater Guidebook

MARKET MODEL



MARKET MODEL



Source: Flickr

MACRO TRENDS

1. Political & Economic Uncertainty
2. Middle Class Growth in Developing Nations
3. Disaffected Youth
4. Concentration of Wealth
5. Climate Change
6. Aging World
7. Urbanization
8. Global Mobility
9. Connectivity
10. Global China

MACRO TRENDS

1. Urbanization
2. Smart is the New Green
3. Social Trends
4. Economic Trends (BRIC)
5. Connectivity & Convergence
6. Innovating to Zero
7. New Business Models
8. Health, Wellness, and Wellbeing
9. High Speed Rail

MACRO TRENDS

Definition of Mega Trends That Frost & Sullivan Tracks

Mega Trends are transformative, global forces that define the future world with their far reaching impacts on businesses, societies, economies, cultures, and personal lives.

Global Mega Trends



Urbanization –
City as a
Customer



Bricks and Clicks



Future
Infrastructure
Development



Smart is the New
Green



Innovating to Zero



Health, Wellness
and Well Being



Social Trends: Gen Y,
Middle Bulge, She-
conomy,
Geosocialization



Future of Energy



Future of Mobility



Connectivity and
Convergence



Economy: Beyond
BRIC: The Next
Game Changers



New Business
Models: Value for
Many

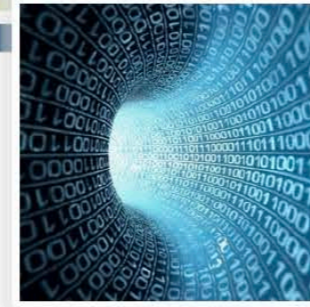
Source: Frost & Sullivan analysis.

MACRO TRENDS

News Headlines in 2025



Robots have entered our homes for personal use.

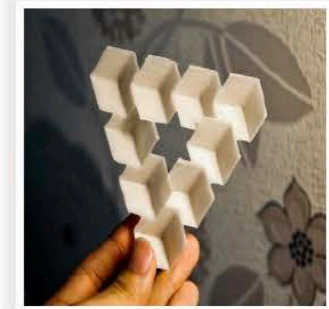


Big data has entered the Zettabyte era.

Sensory devices guide our everyday lives.



3D printing is commonplace. 4D printing is gaining mainstream acceptance.



Mobile financial transactions are now in crypto-currencies.



High Speed Rail to connect from China to Europe.

There are 6 million autonomous cars in Europe and North America.



Summer Sale: Low-cost holidays in space.



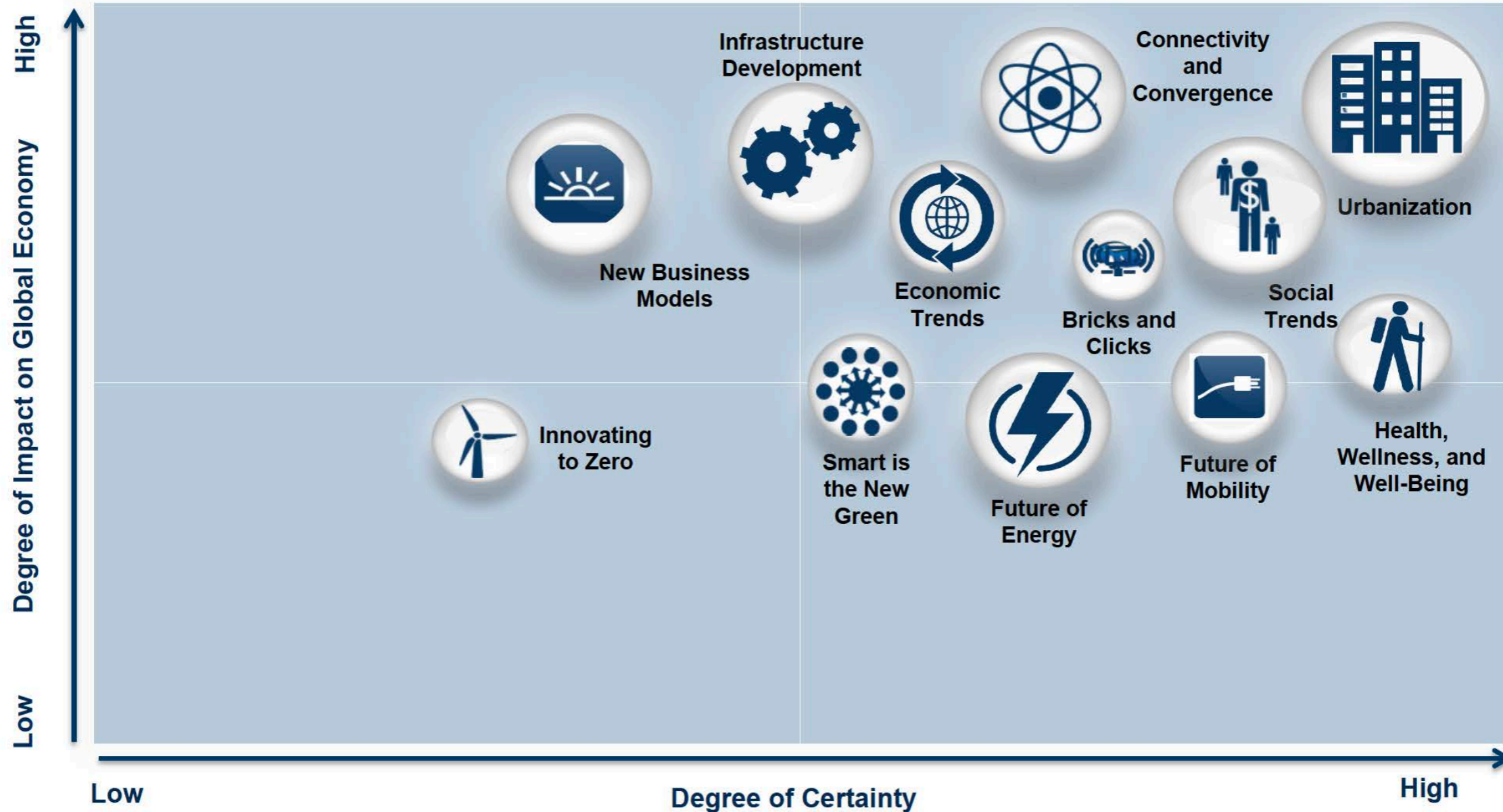
Source: Frost & Sullivan

MACRO TRENDS

The Mega Trend Matrix

Understanding Implications of Key Mega Trends on Global Economy

Mega Trend Matrix, Global, 2025



Note: The size of the bubble represents the scale of opportunity within each Mega Trend. These Mega Trends have been plotted based on quantitative and qualitative reasoning.

Source: Frost & Sullivan Analysis

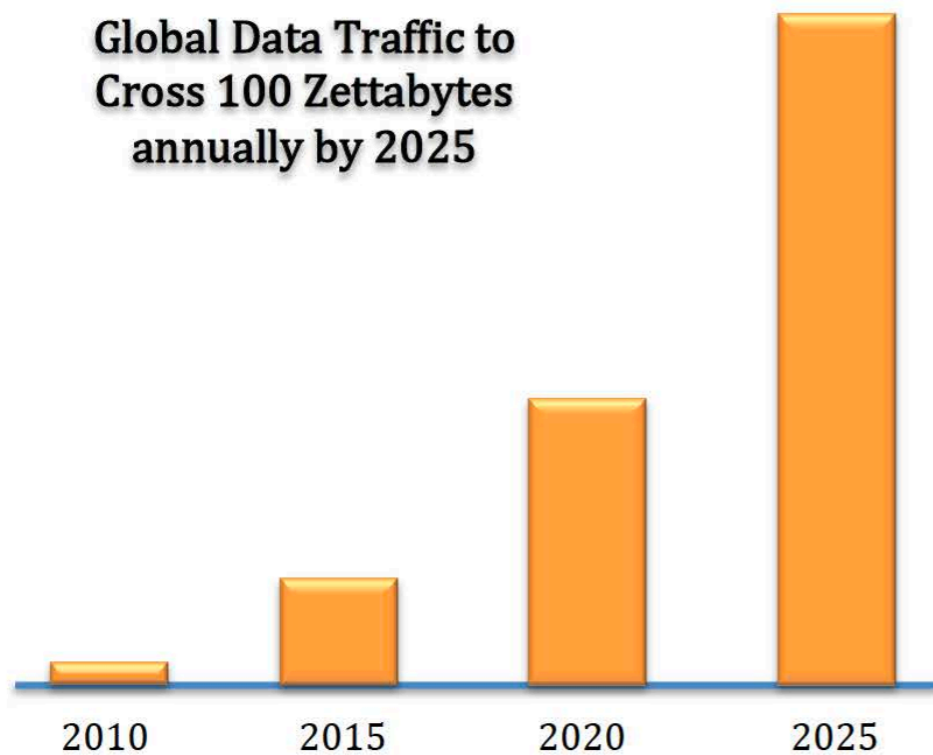
MACRO TRENDS

Artificial Intelligence

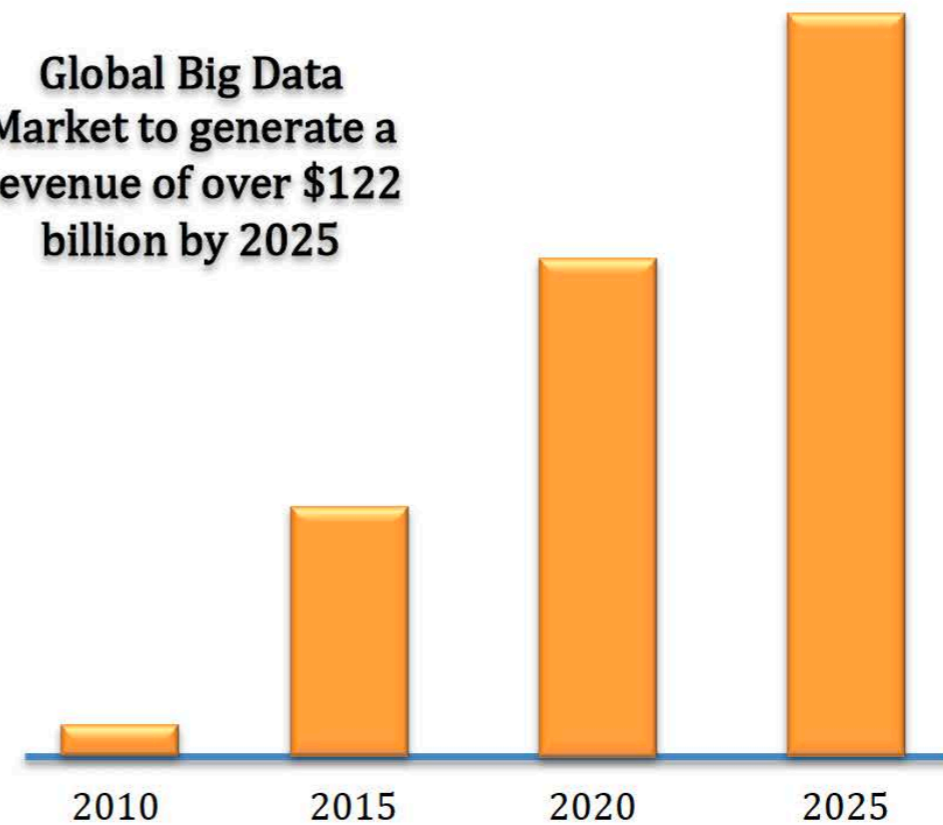
Sub Trend: Big Data Analytics

90% of the data in the world has been created in the last two years alone

**Global Data Traffic to
Cross 100 Zettabytes
annually by 2025**



**Global Big Data
Market to generate a
revenue of over \$122
billion by 2025**



Source: IBM, Cisco, Frost & Sullivan Analysis

MACRO TRENDS

1. Globalization & Urbanization
2. Climate Change
3. Political & Economic Uncertainty
4. Connectivity & Convergence

The largest taxi company has no cars.

The largest hotel company has no real estate.

The largest retailer has no inventory.

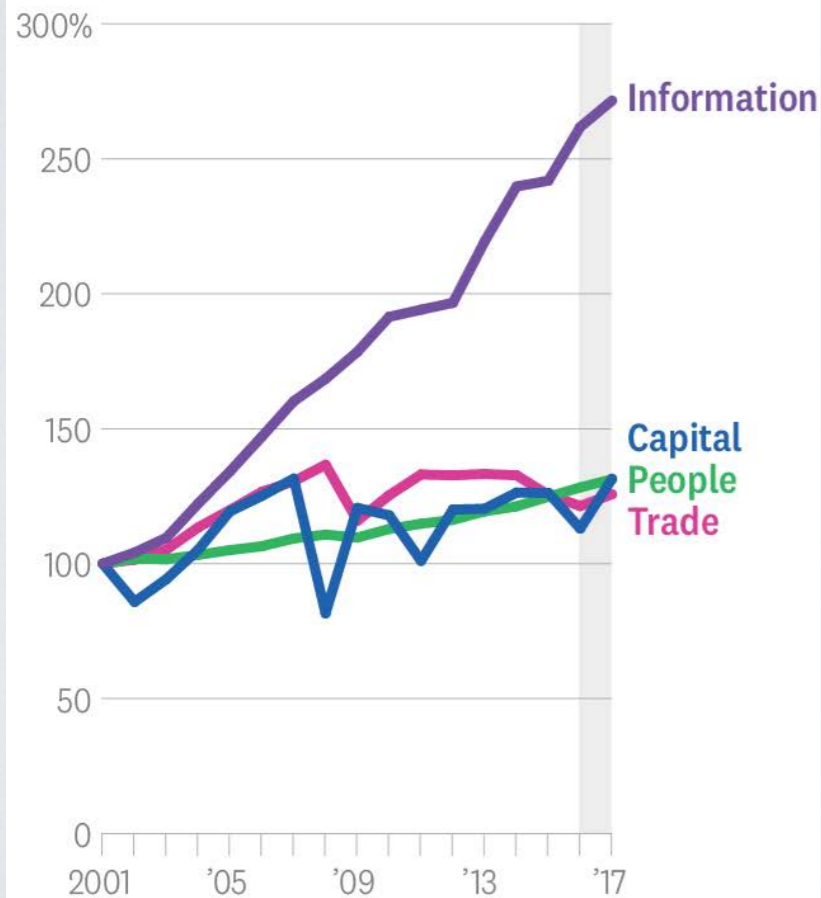
MACRO TRENDS

I. Globalization & Urbanization

Globalization Is Increasing (So Far)

While flows of information show the most growth over time, the percentages of trade, capital, and people flows crossing national borders all increased between 2016 and 2017 as well.

Depth of global connectedness, relative to 2001



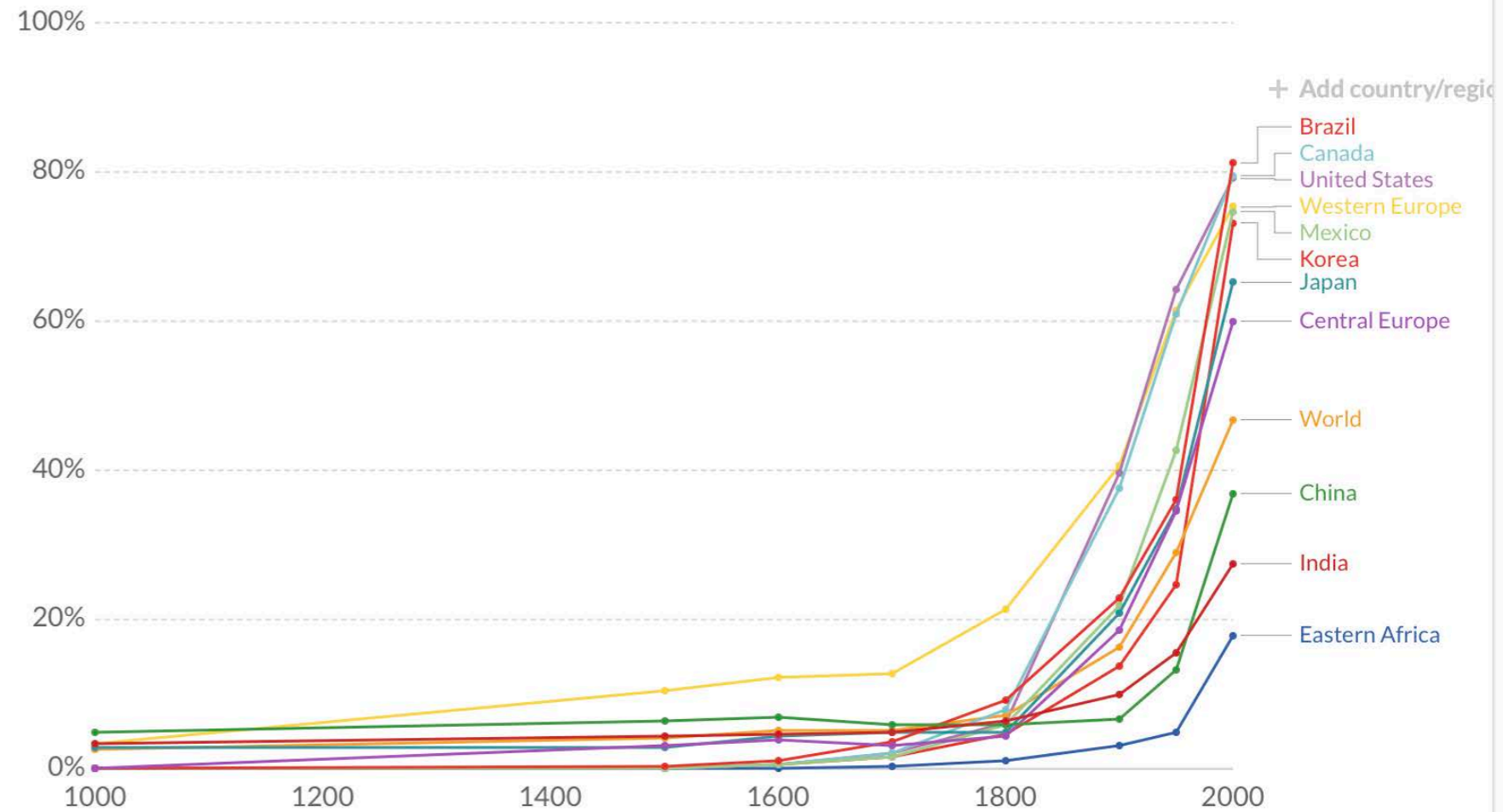
Note: Information flows consist of the international share of internet traffic, the international share of total telephone call minutes, and trade in printed publications per capita. Prior to 2005, information flows measured the latter two metrics only. Source: DHL Global Connectedness Index 2018



Share of the population living in urbanized areas

Share of the total population, in a particular region or country, who live in urbanized areas.

Our World in Data



Source: HYDE 3.1 (2010)

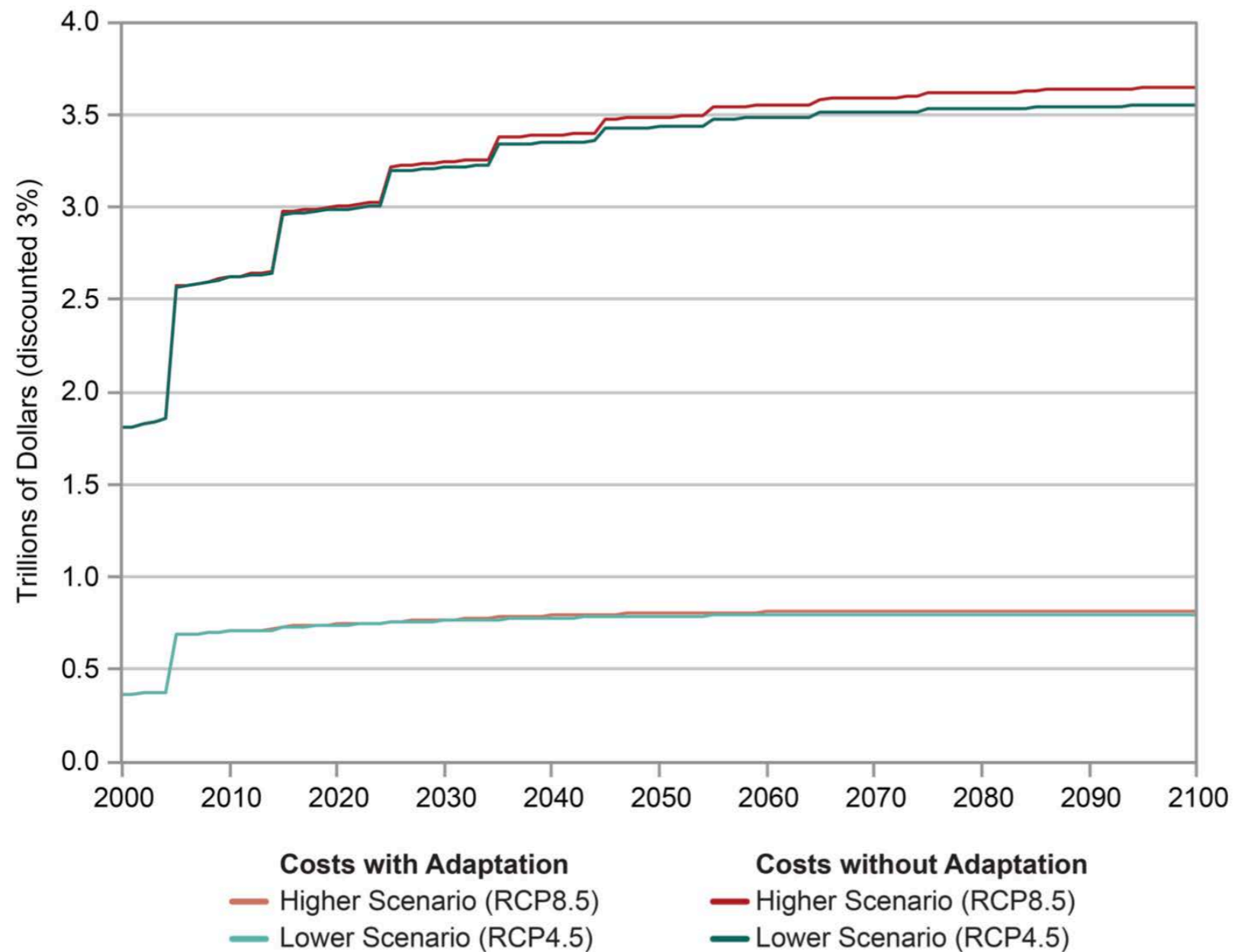
CC BY

10000 BCE 2000 CHART DATA SOURCES

MACRO TRENDS

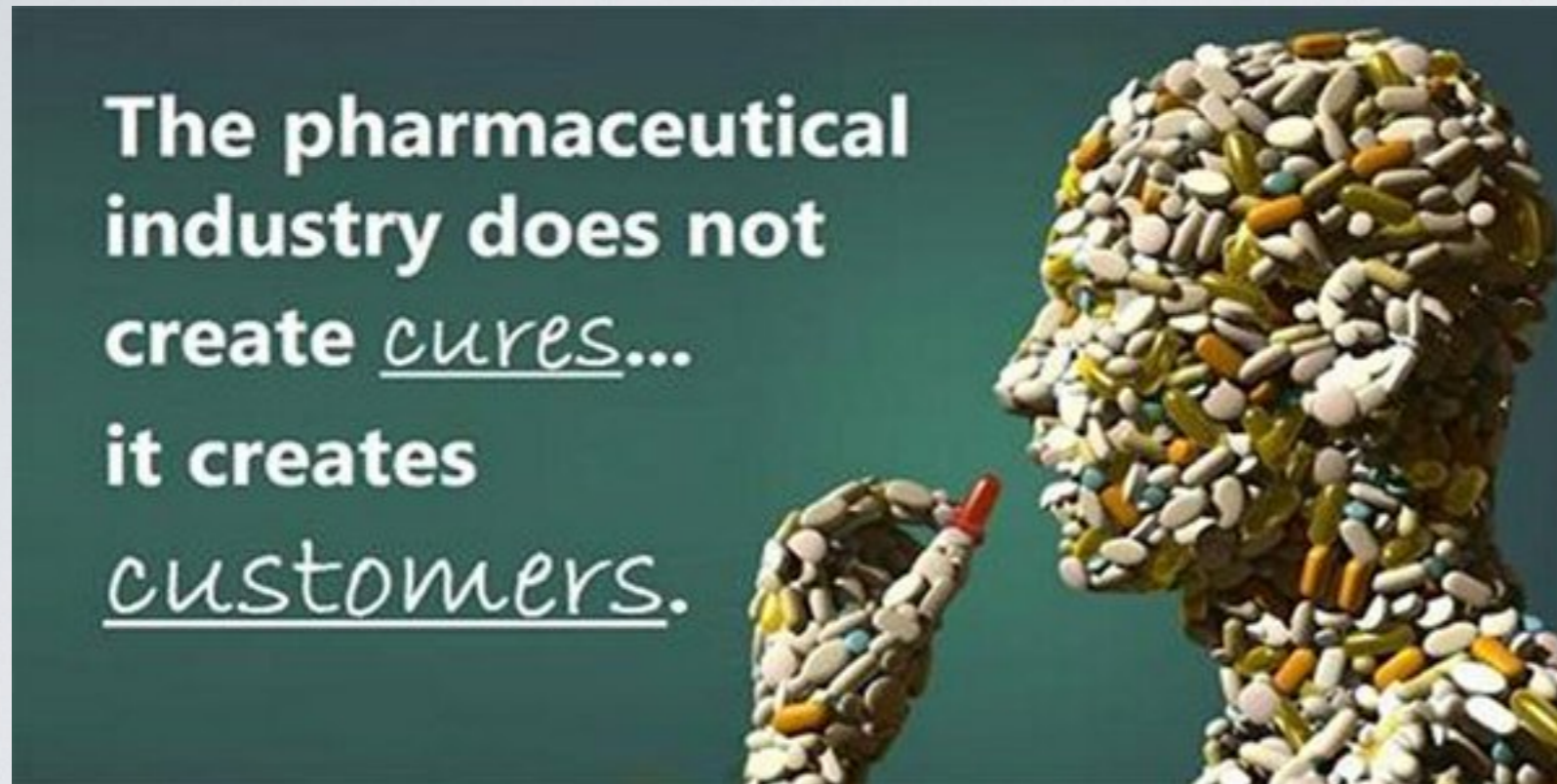
2. Climate Change

Figure 8.1: Cumulative Costs of Sea Level Rise and Storm Surge to Coastal Property

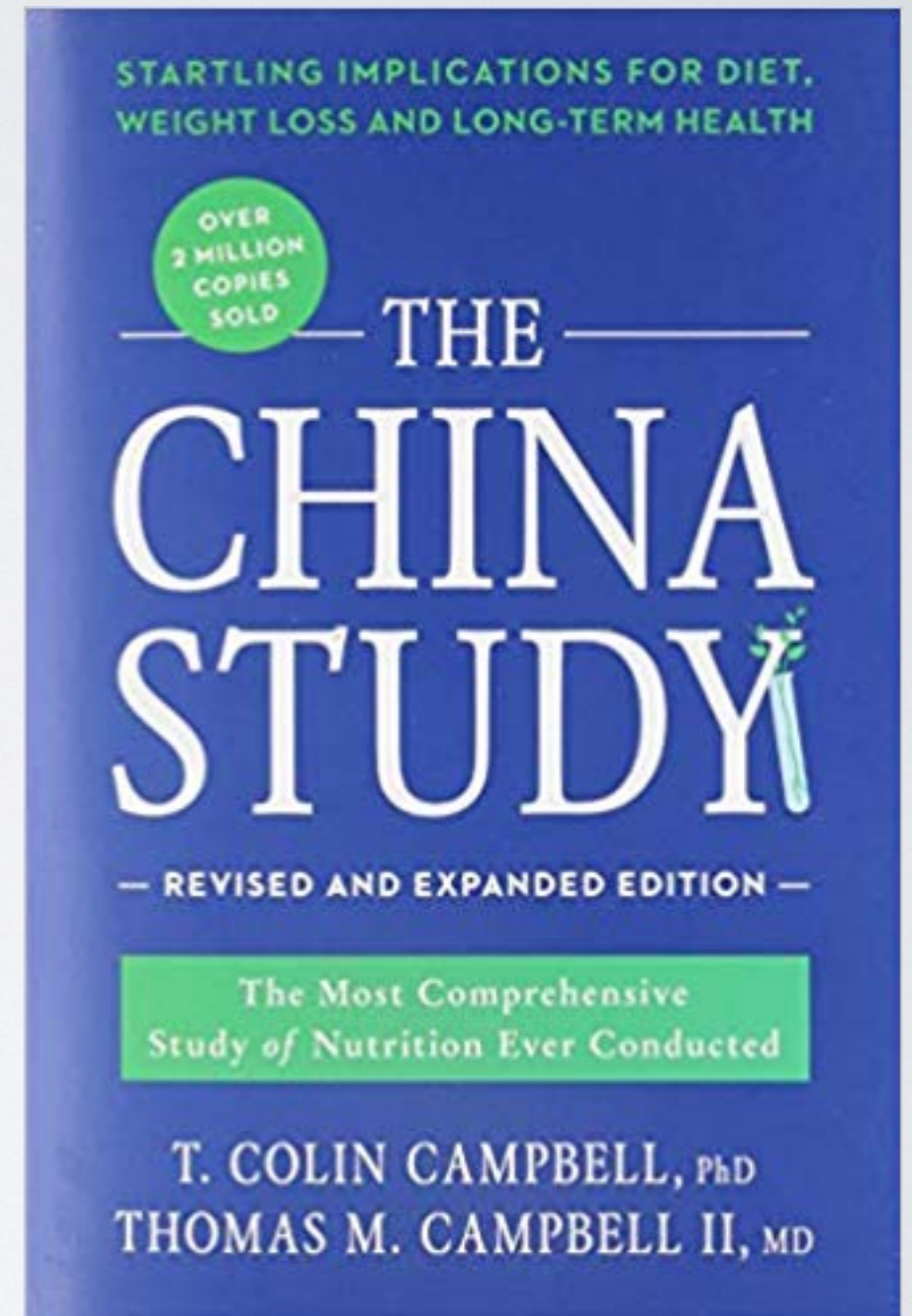
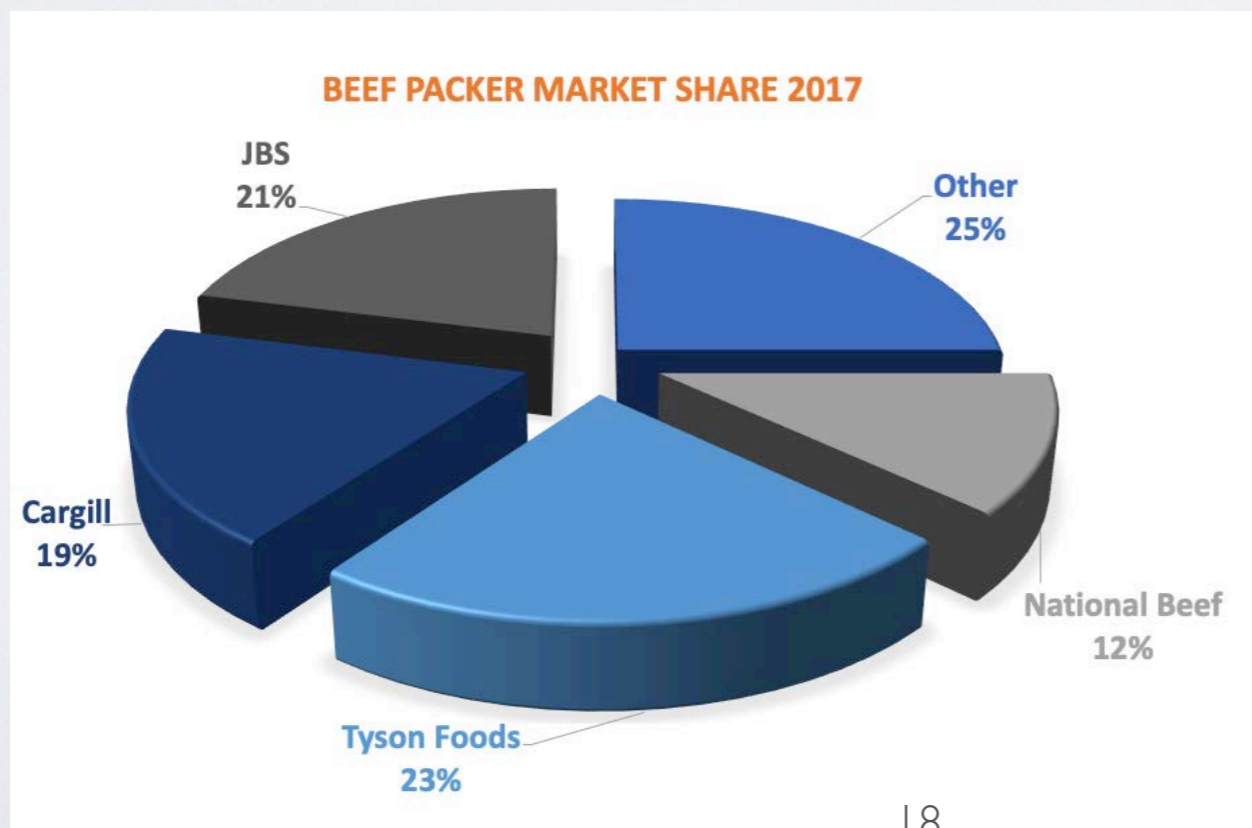


MACRO TRENDS

3. Political & Economic Uncertainty



Source: wakeupworld.com



Source: Mogin Rubin

Implication: Connectivity Is Pushing Convergence

Connectivity will Accelerate Convergence of Industries, Products, Technologies and Competition

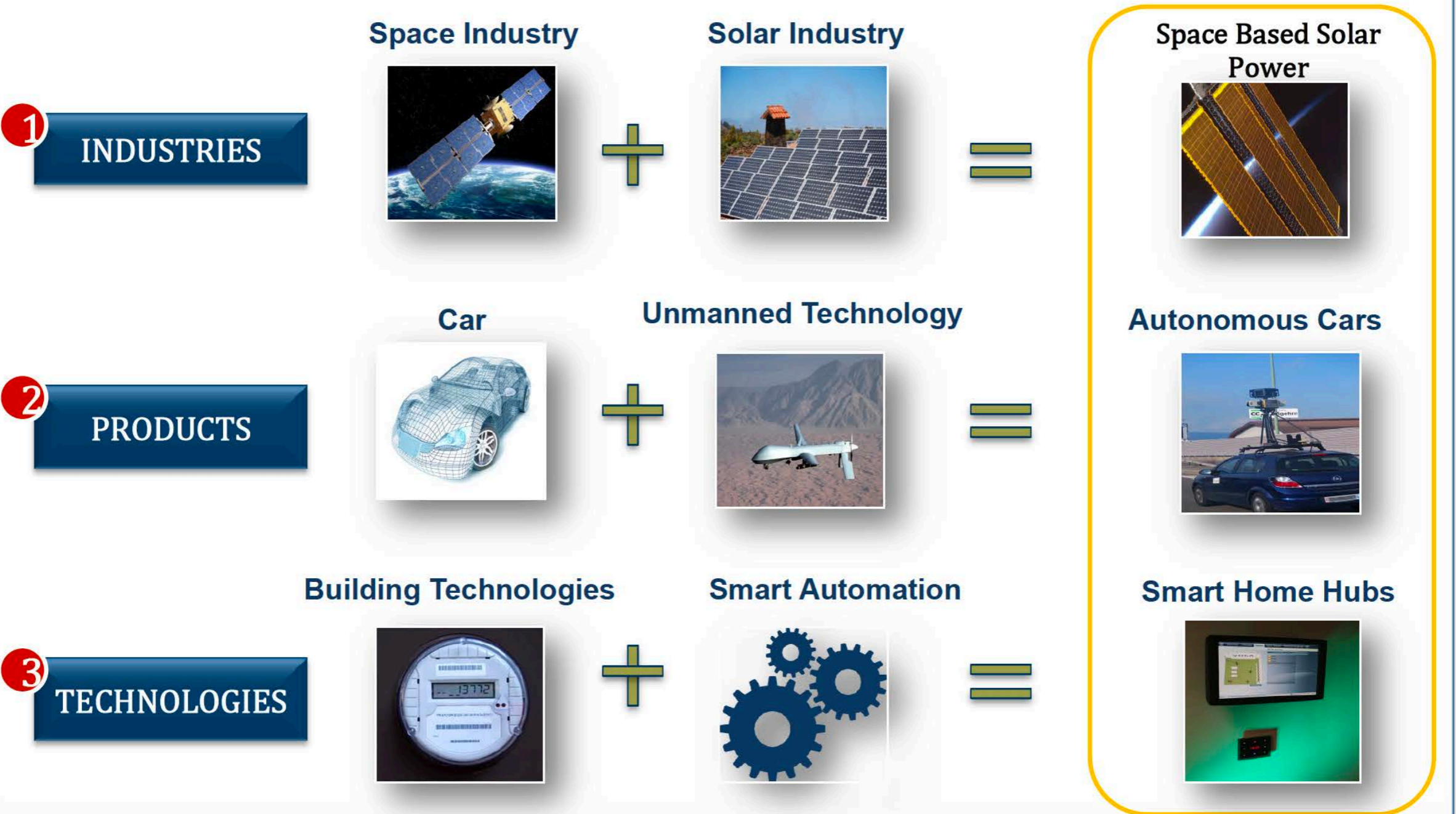
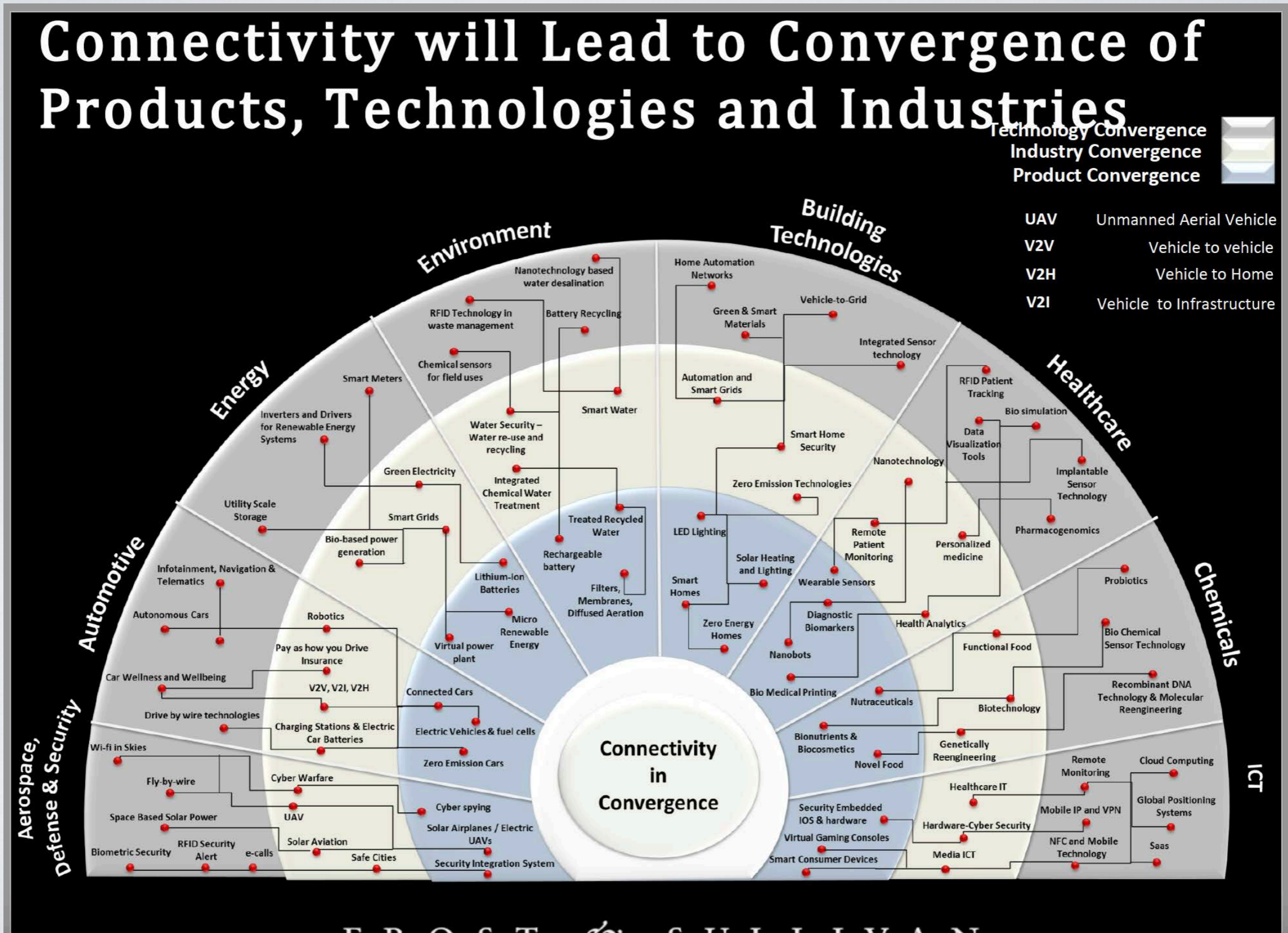


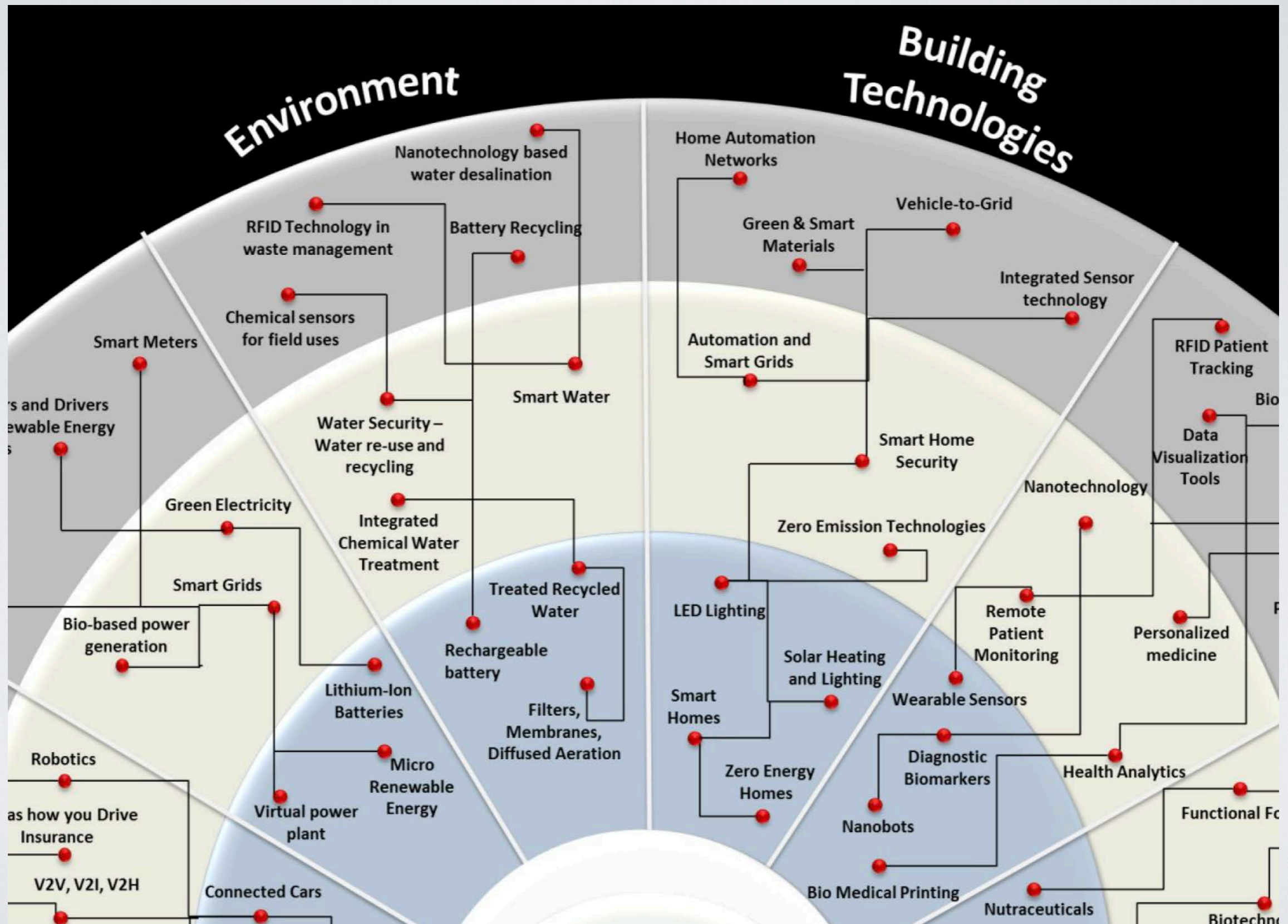
Image Source:: `Creative Commons and Dreamstime.

Source: Frost & Sullivan analysis



MACRO TRENDS

4. Connectivity & Convergence



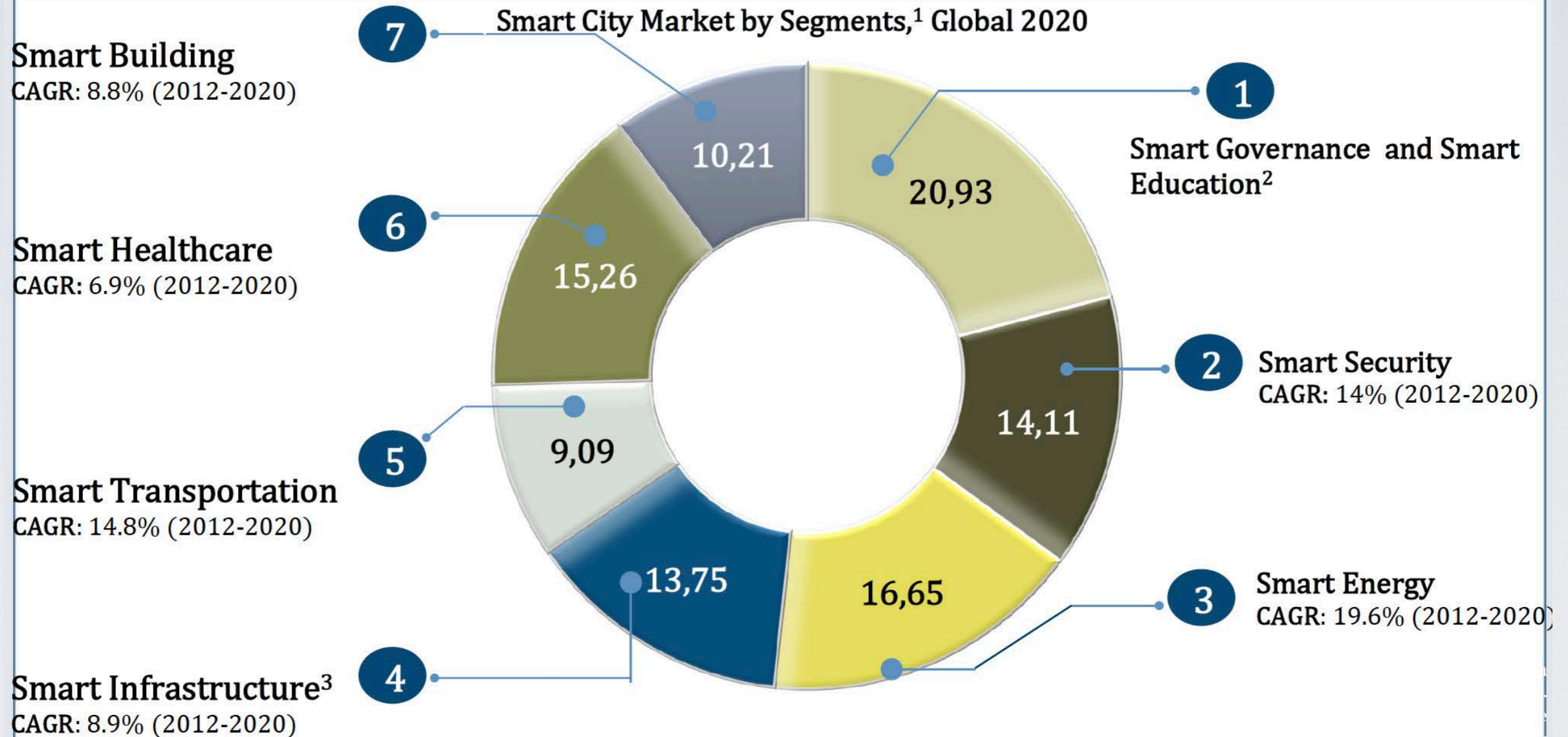
Source: Frost & Sullivan

Smart is the New Green 3 Levels of Smart Products and Technologies



A **smart product** is characterized by an **intelligent sensing technology** that is increasingly being integrated with Internet technologies, thereby allowing the product to **react to and communicate** with the changing environment around it. This leads to **optimal operations and improvement in efficiency**.

Smart cities To Create Huge Business Opportunities With A Market Value Of \$1.5 Trillion By 2020



Sustainable/Eco Cities in 2025

Global Snapshot of Sustainable/Eco Cities in 2025

● Sustainable/Eco City in 2025

○ Sustainable/Eco City built from scratch



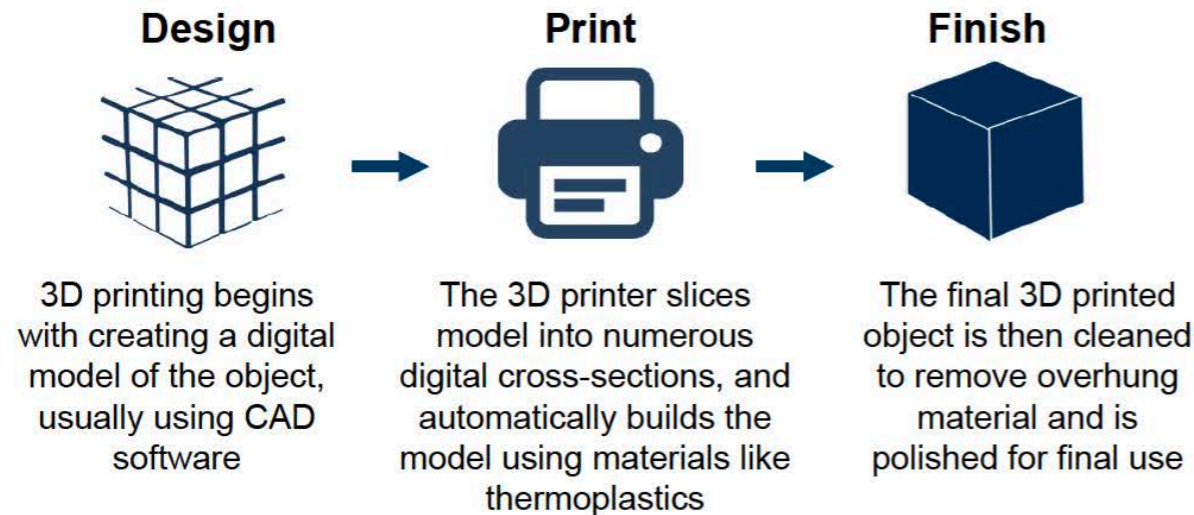
Note: Eco Cities are cities built on a green initiative, from buildings to transport, governance, city planning, energy, and technology. These cities are either upgraded or built from scratch.

Source: Siemens Green Index and Frost & Sullivan analysis.

3D Printing

The consumer and commercial products are expected to account for 28% of 3D printing revenues by 2020

3D printing is a computer-driven additive manufacturing technology used for producing the final product from a digital model by laying down successive layers of material.



- Human Organs
- Medical Devices
- Body Tissues
- Nano-medicine
- Pharmaceuticals

Healthcare

- Concept Modeling
- Prototypes
- Spare Parts
- End-use Parts
- Tooling

Automotive

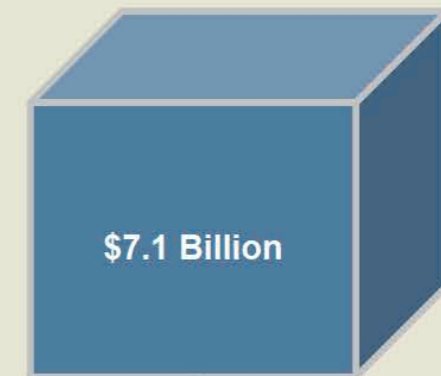
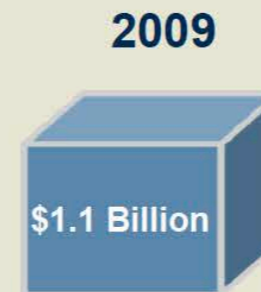
- Manufacturing On-demand
- Cutting Tools
- Customization
- Domestic Production

Manufacturing

Global 3D Printing Market, Segment Breakdown, 2009 and 2020

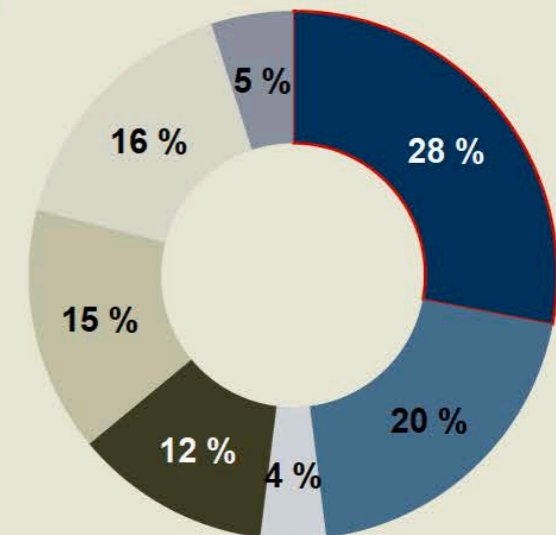
Total Market (\$Billion)

2020



By Industry (% Share)

- Consumer & Commercial
- Automotive
- Architecture
- Industrial Application
- Aerospace & Defense
- Medical and Dental
- Other

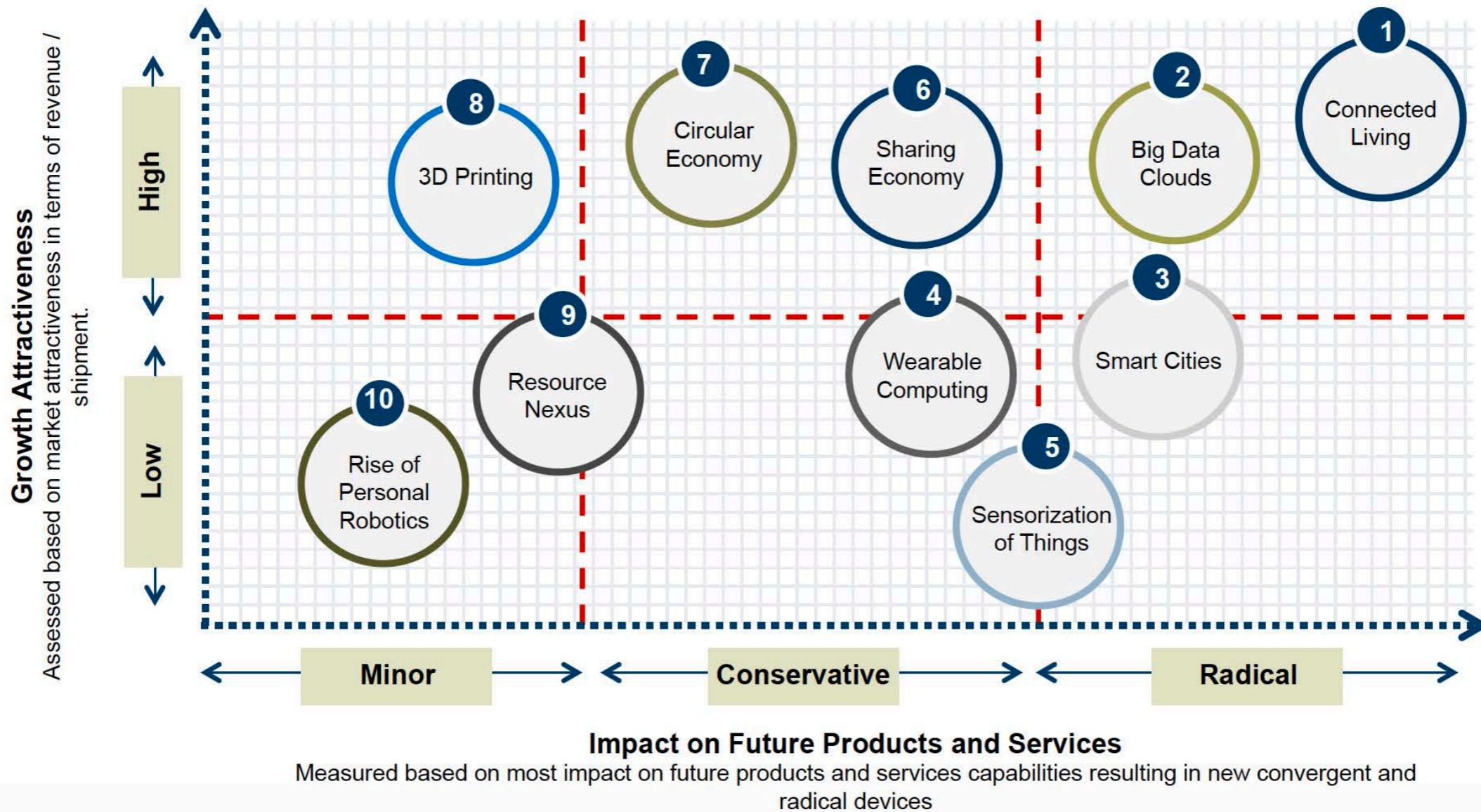


Source: Frost & Sullivan Analysis

MACRO TRENDS

Executive Summary – Top Ten Transformational Shifts by 2020

While all Mega Trends are important, the selection and ranking of these trends indicate which seismic shifts will have particular relevance in shaping the landscape in which the world will evolve this decade.

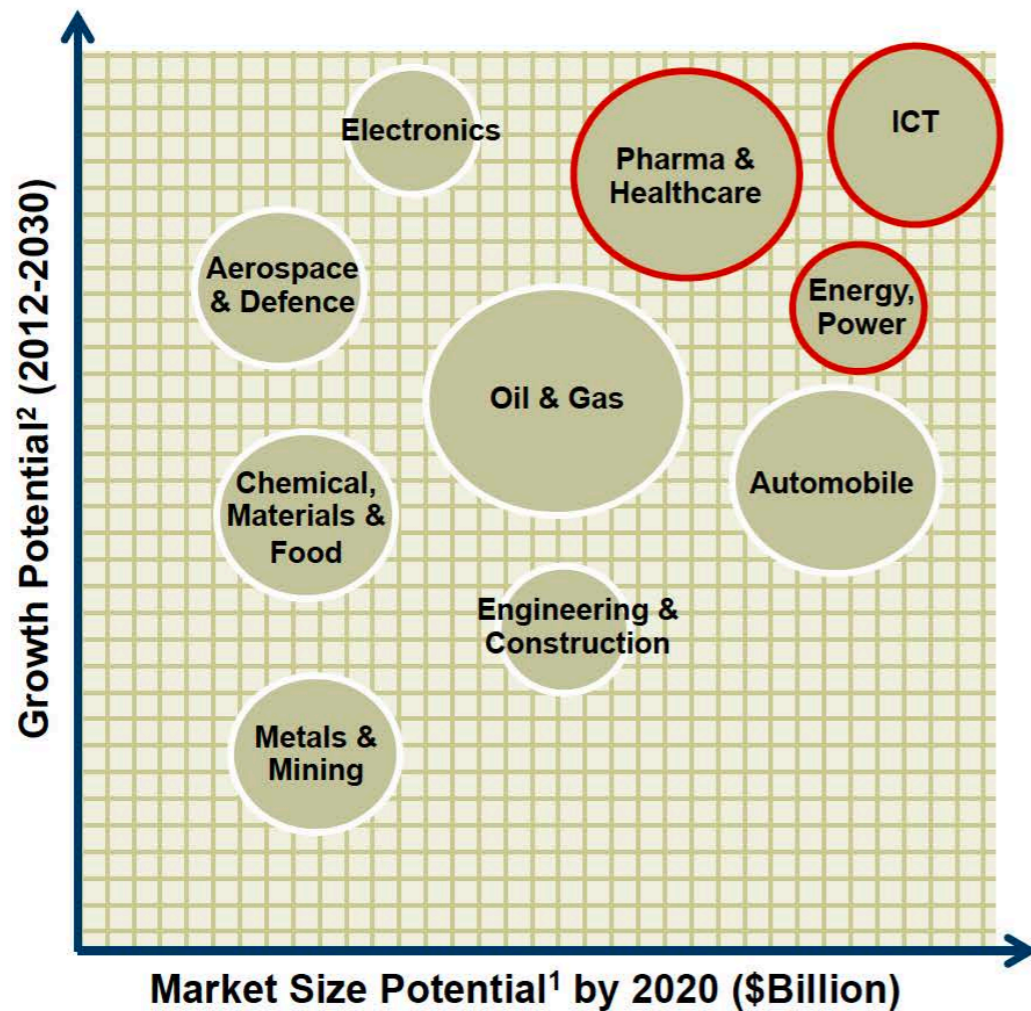


Source: Frost & Sullivan analysis.

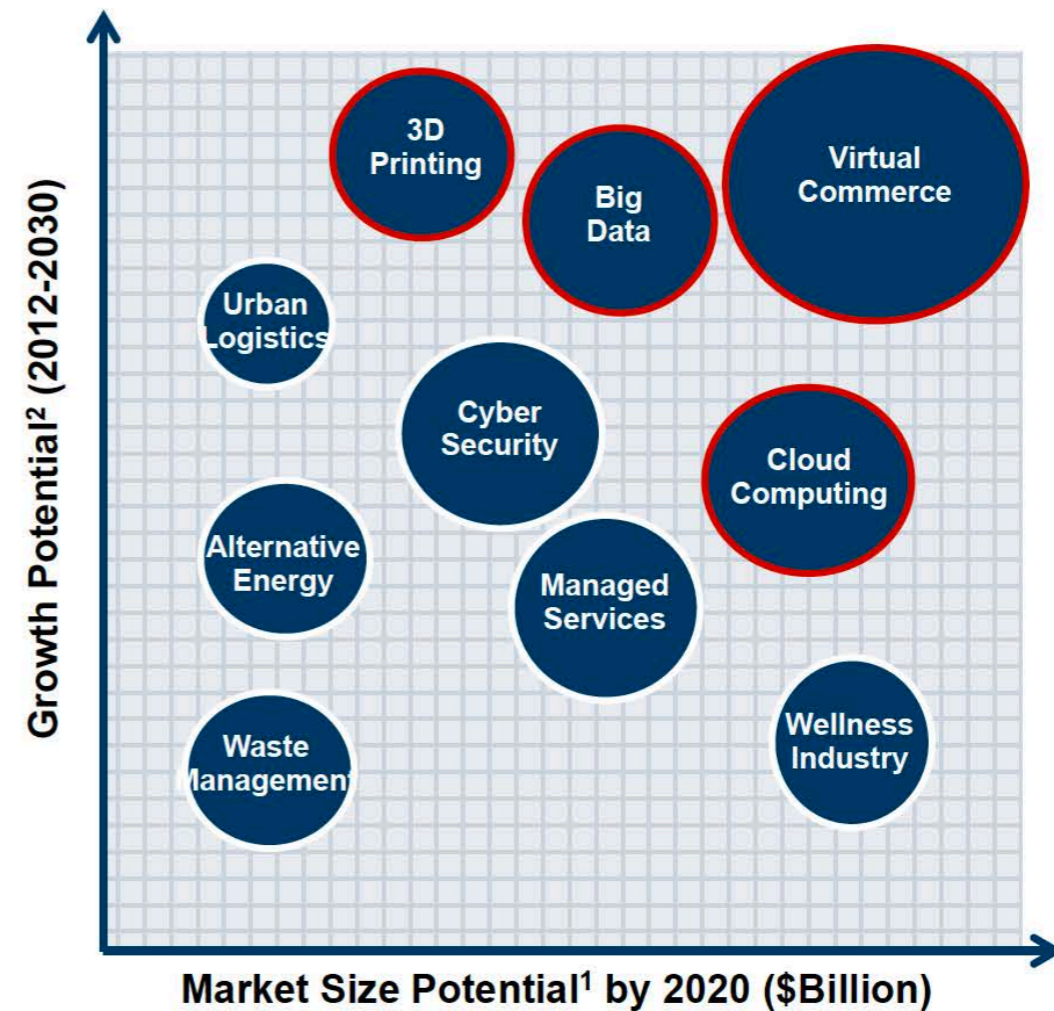
MACRO TRENDS

Top Industries of the Future

Top Mature Industries by 2020



Top Emerging Industries by 2020



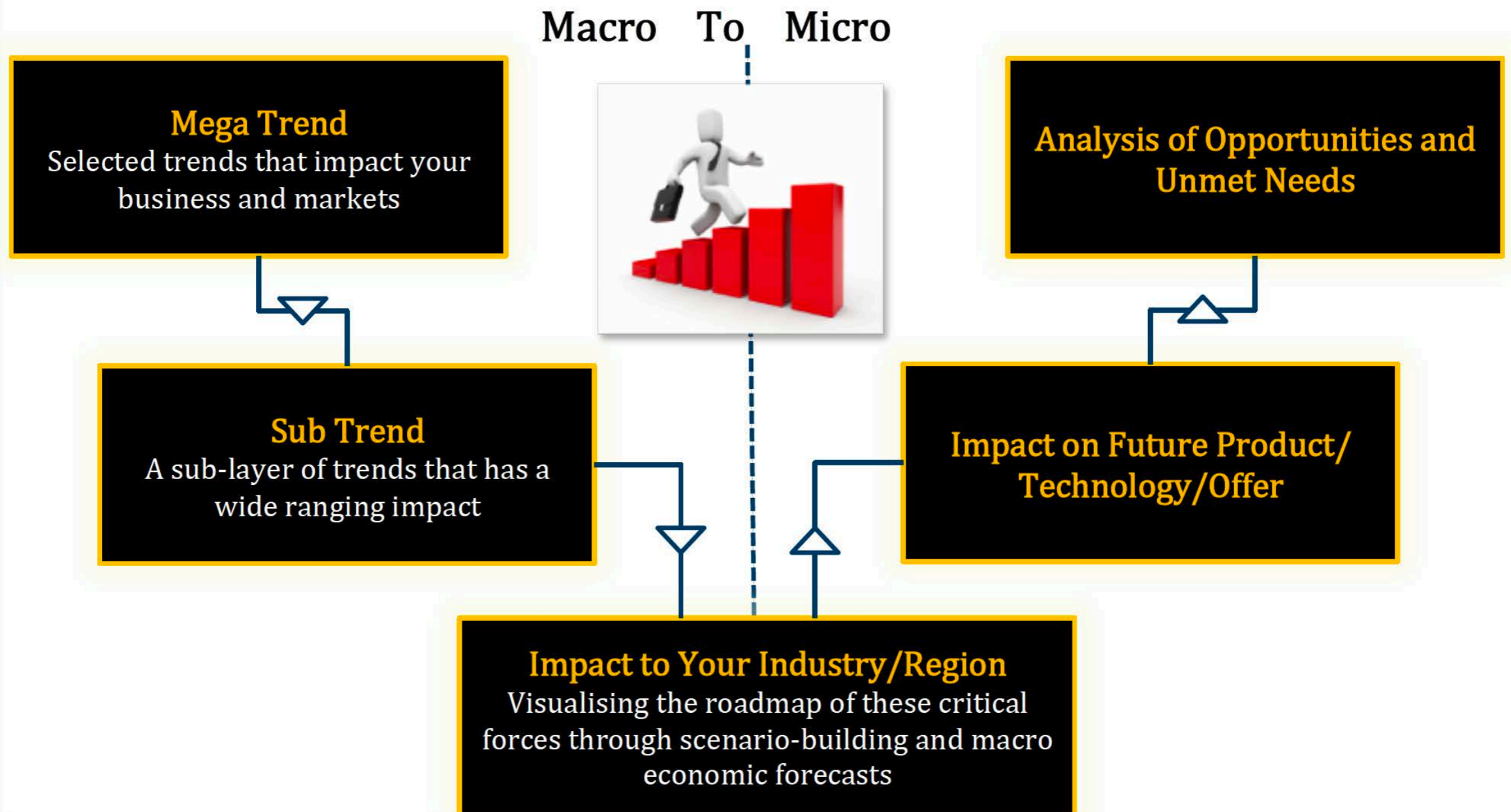
¹Relative score assigned for potential annual turnover (revenue / shipment) of the industry in 2025

²Measured by qualitative factors that has the scope to create a boom in the industry such as new patents, innovation cycle and industry impact

Source: Bloomberg, Frost and Sullivan Analysis

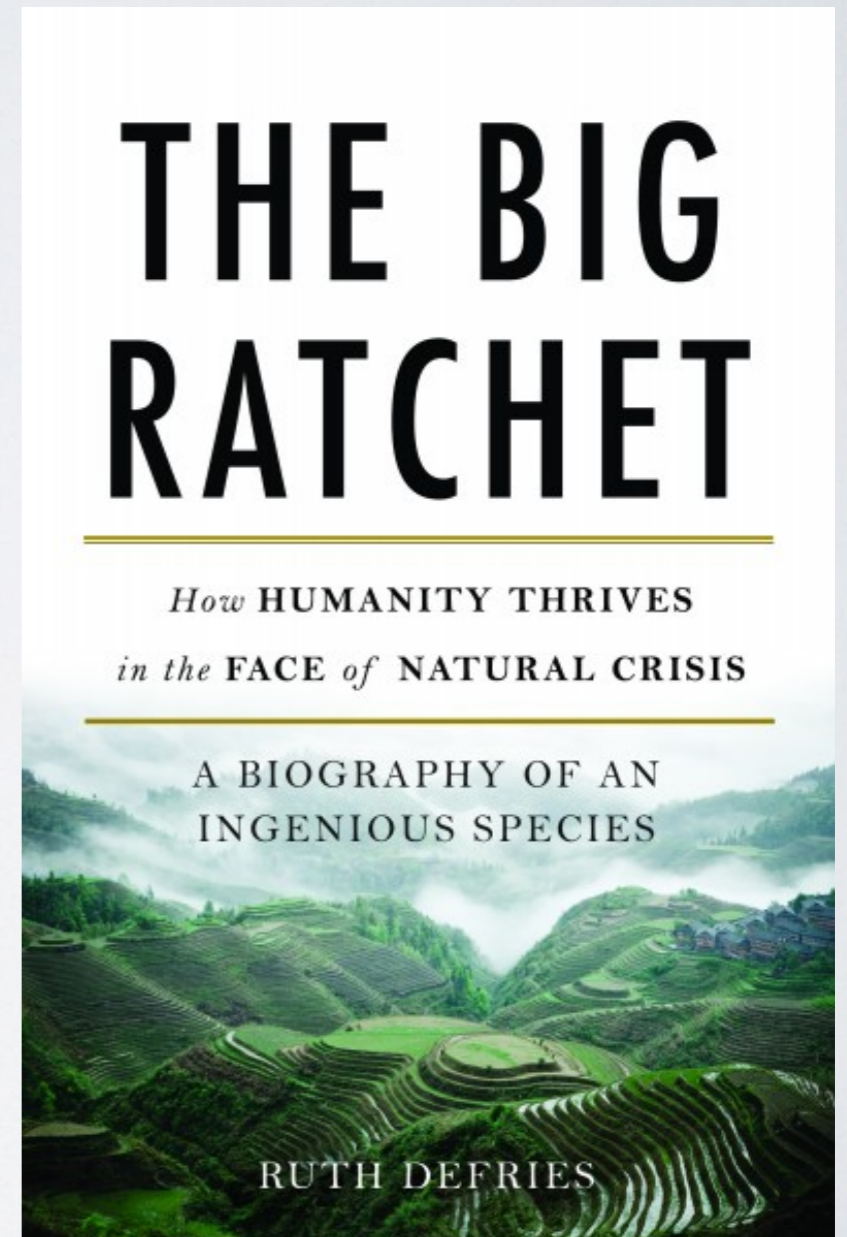
MACRO TRENDS

From Macro to Micro: Taking Mega Trends from Information to Strategy Implementation



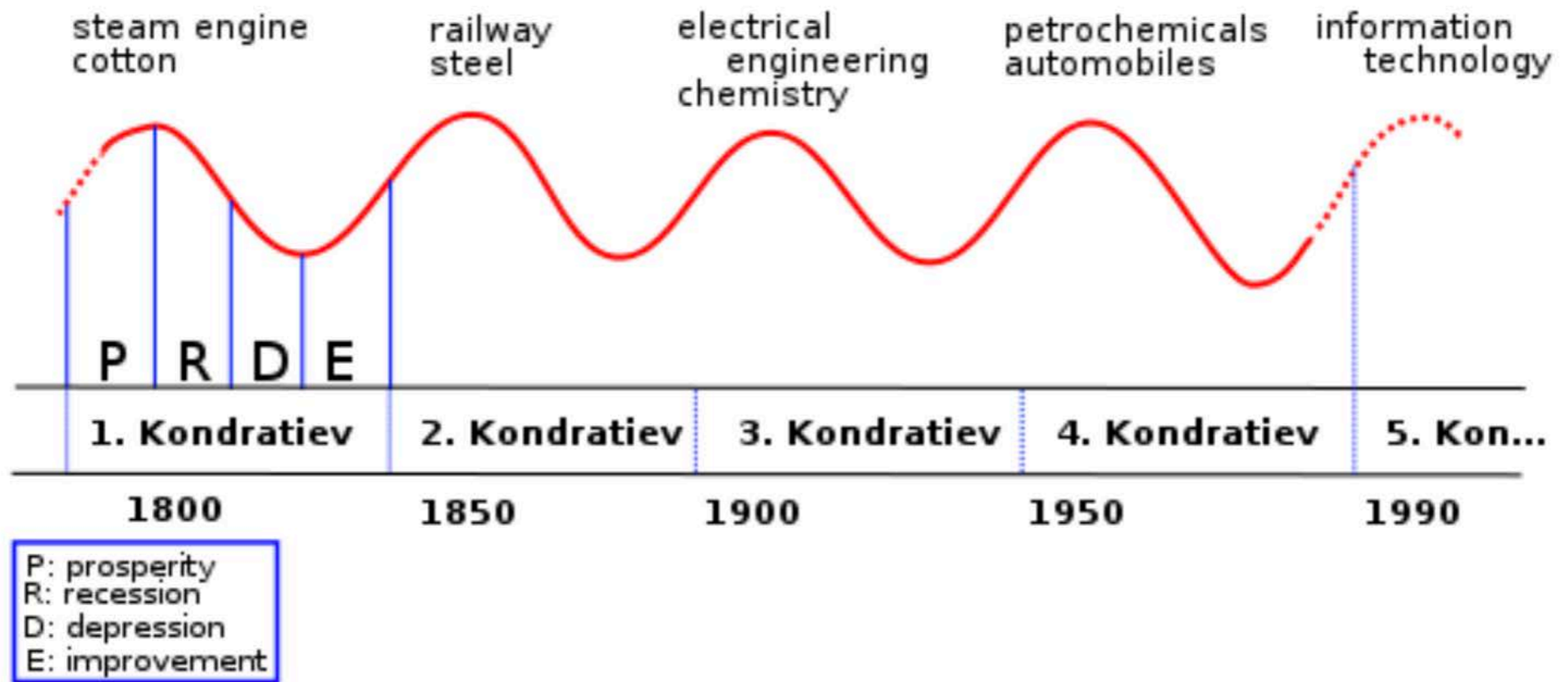
CYCLICAL TRENDS

- Ratchet
 - Society or an industry improves due to a new product or system
- Hatchet
 - Unintended consequences leads to problem solving
- Pivot
 - A new paradigm is established that allows for a new ratchet



CYCLICAL TRENDS

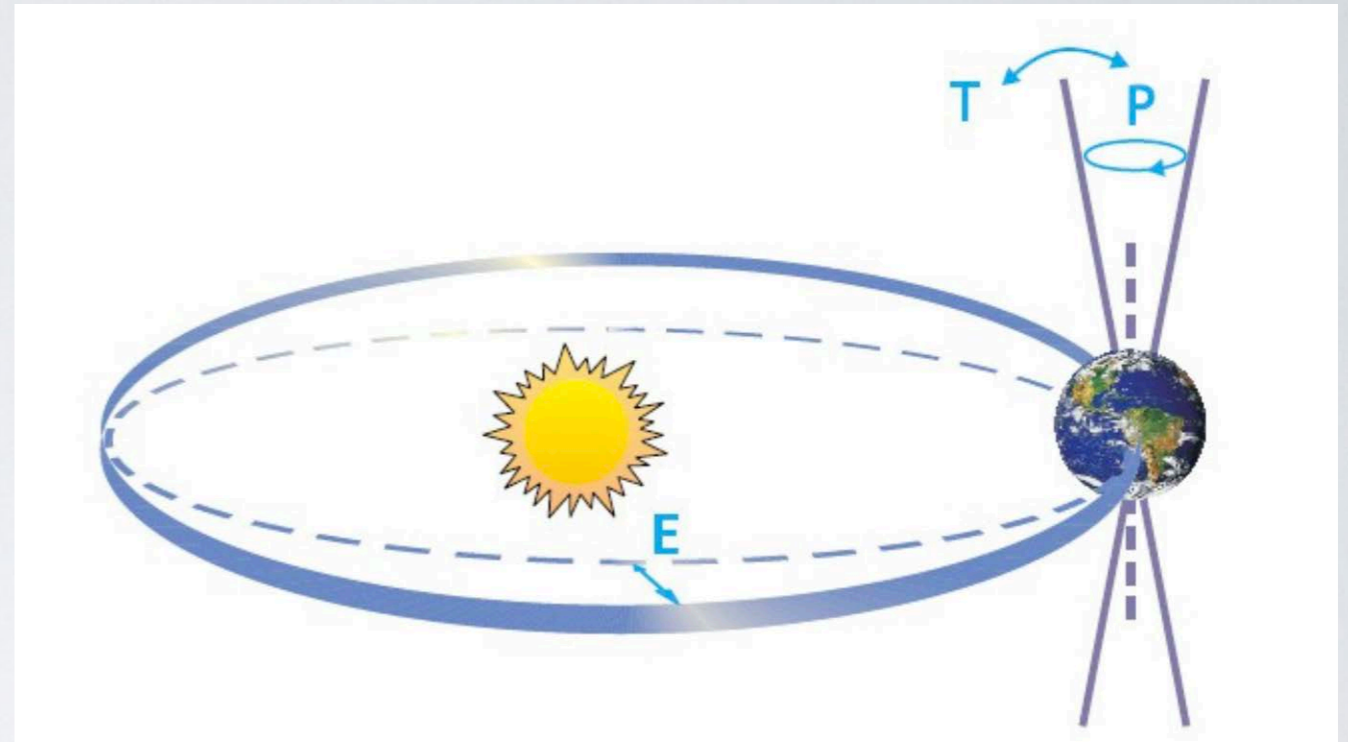
- Economic (Kondratieff), 66 year cycle



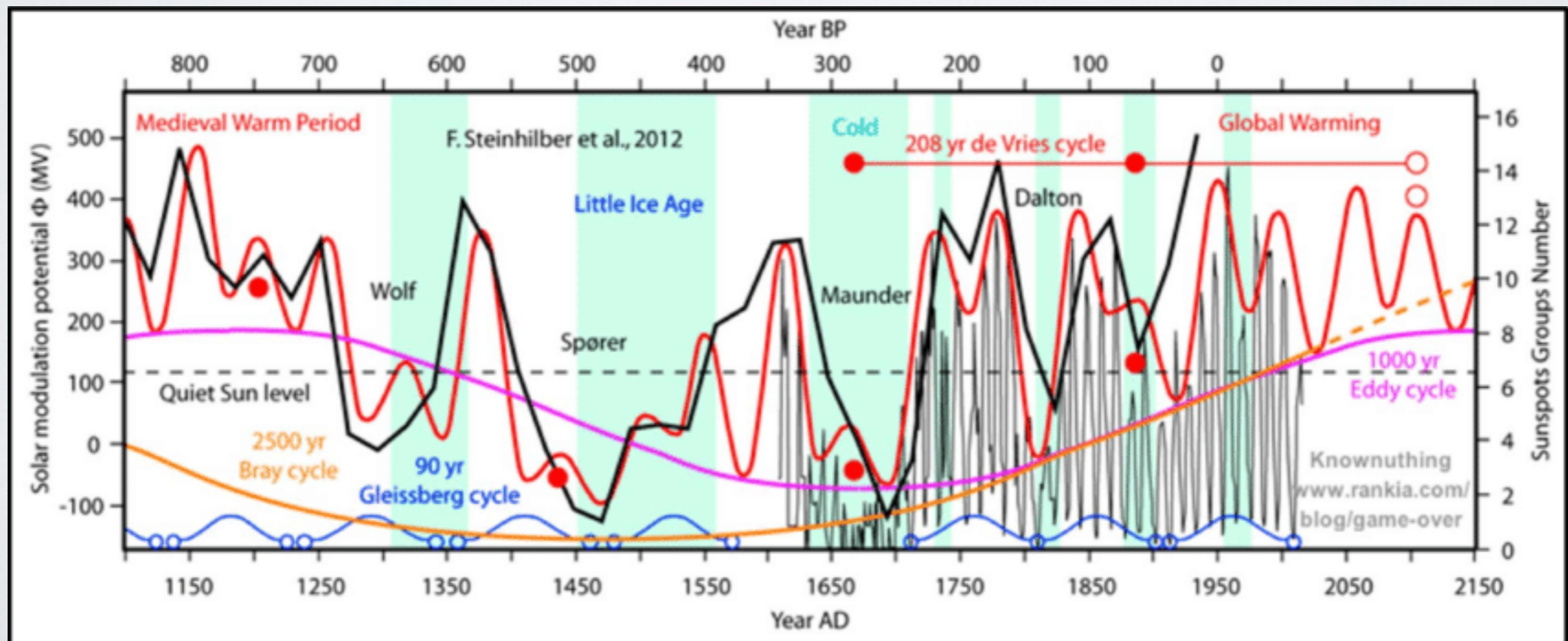
Kondratieff Wave

CYCLICAL TRENDS

- Climate; 160 to 25,920 year cycles



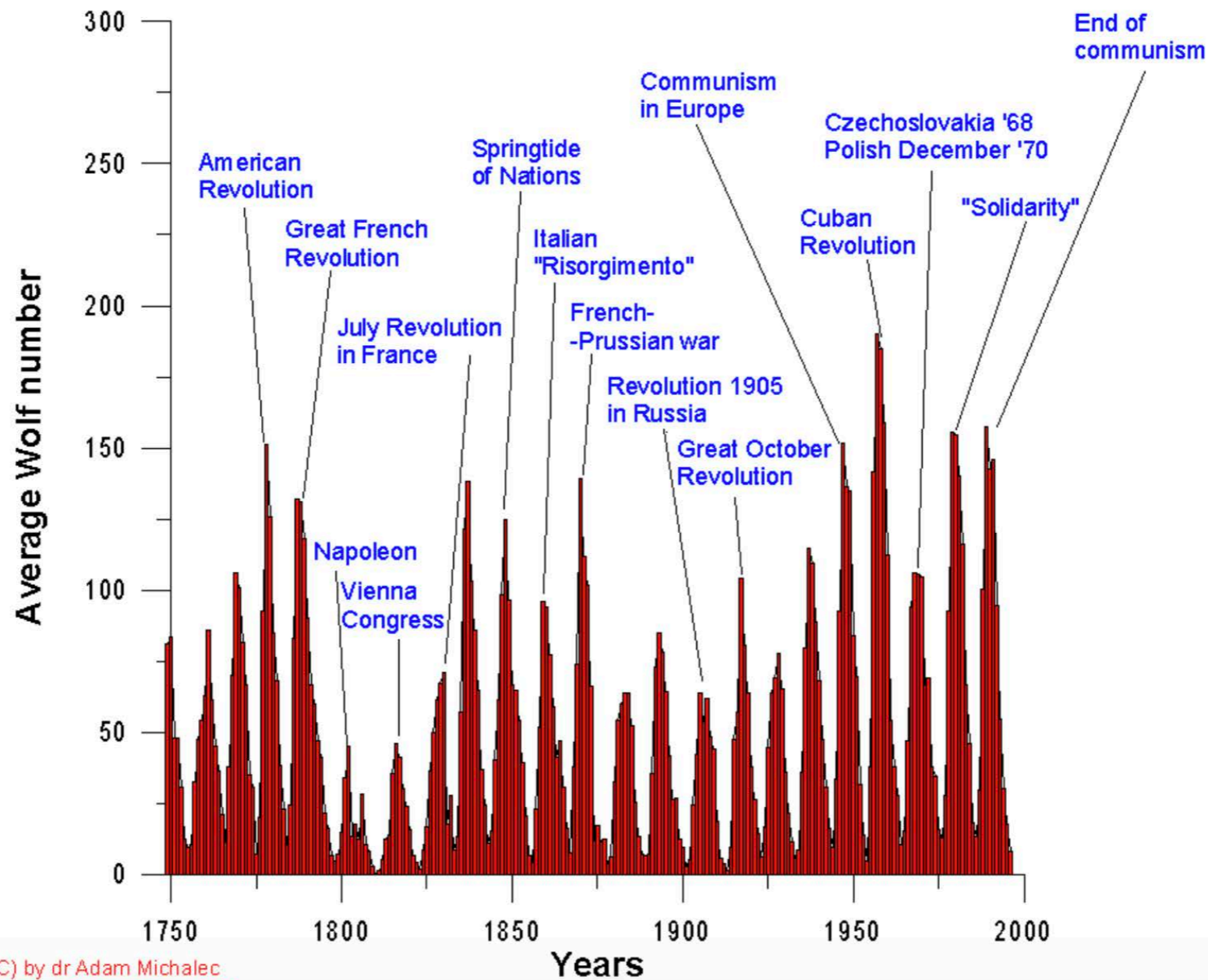
Source: Open Source Systems



CYCLICAL TRENDS

- Human Conflict – solar cycles, 11 year cycle

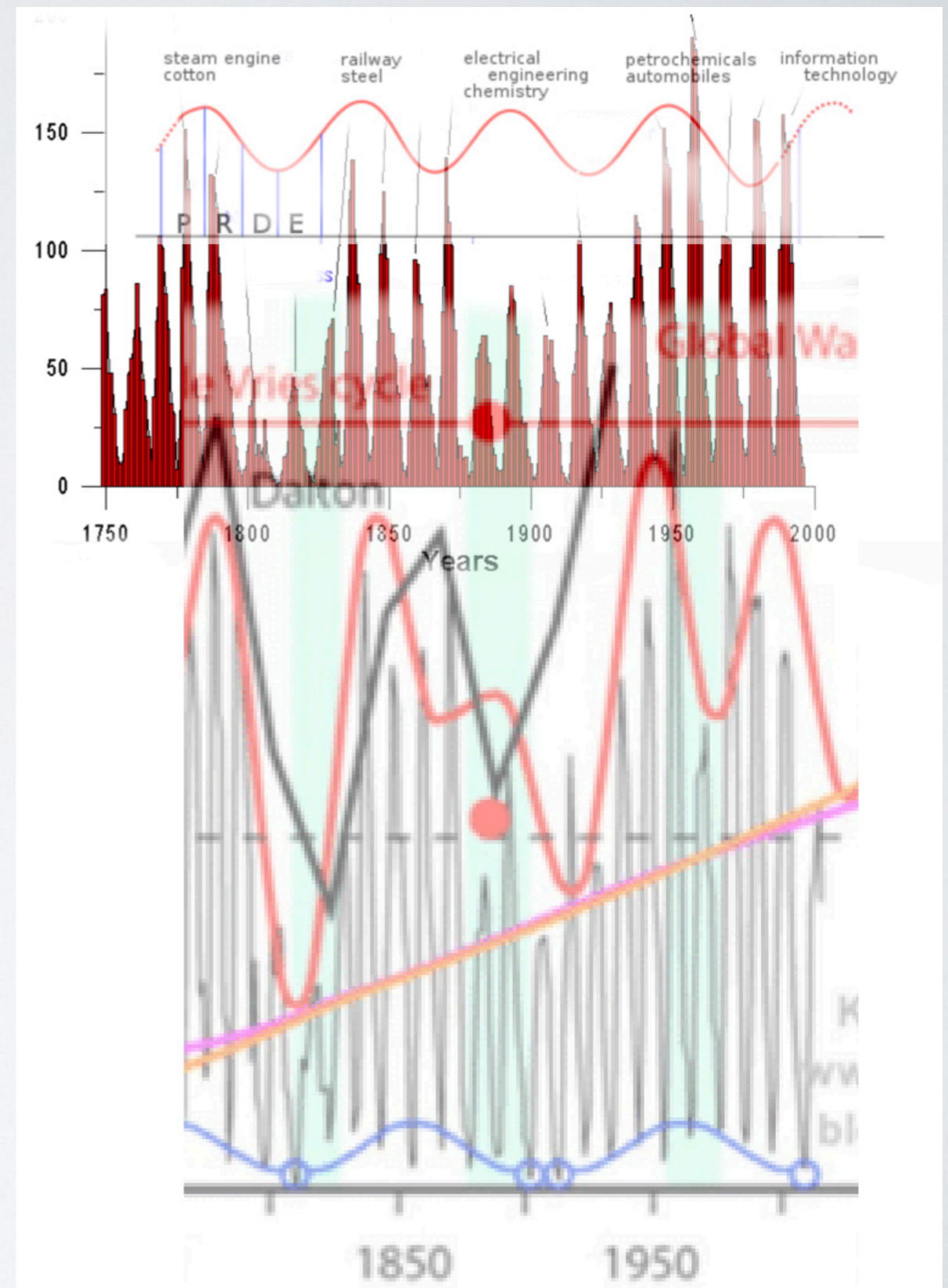
Does the Sun influence historical events?



(C) by dr Adam Michalec
Cracow Observatory, 1990

CYCLICAL TRENDS

- Economic (Kondratieff), 66 year cycle
- Climate – 25,920 year cycle
- Human Conflict – solar cycles, 11 year cycle



OPPORTUNITIES

1. Globalization & Urbanization

- Cities as Customers
- Affordable Housing

2. Climate Change

- Sea Level Rise

3. Connectivity & Convergence

- Product vs. Solution
- Green/Smart Materials
- 3D Printing

OPPORTUNITIES

Connectivity & Convergence
Urbanization



OPPORTUNITIES

Connectivity & Convergence
Urbanization

Cities, and Not Countries, Will Drive **Wealth Creation** In the Future

Cities like Seoul account for 50% of the country's GDP; Budapest (Hungary) and Brussels (Belgium) each for roughly 45%.

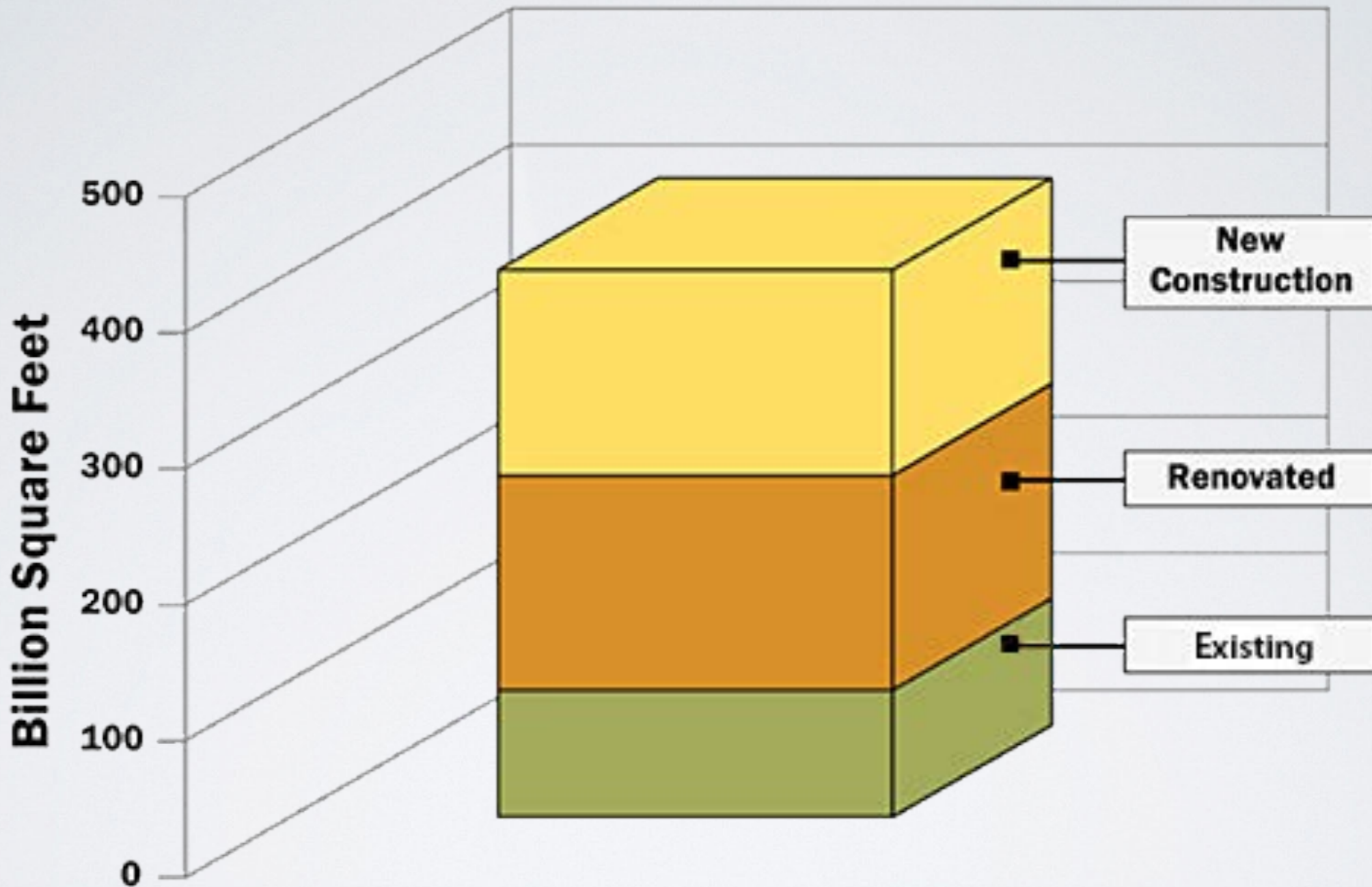
What are the **Micro Implications**?

- High Economic Power
- Hub and Spoke Business Model
- Transit oriented development
- New Mobility Solutions
- City as a Customer



OPPORTUNITIES

Connectivity & Convergence



By 2035: A Historic Opportunity

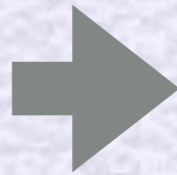
Source: ©2010 2030, Inc. / Architecture 2030. All Rights Reserved.
Data Source: U.S. Energy Information Administration.

OPPORTUNITIES Connectivity & Convergence

Division 3

Concrete

- [03050 Basic Concrete Materials and Methods](#)
- [03100 Concrete Forms and Accessories](#)
- [03200 Concrete Reinforcement](#)
- [03300 Cast-In-Place Concrete](#)
- [03400 Precast Concrete](#)
- [03500 Cementitious Decks and Underlayment](#)
- [03600 Grouts](#)
- [03700 Mass Concrete](#)
- [03900 Concrete Restoration and Cleaning](#)

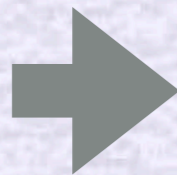


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Division 4

Masonry

- [04050 Basic Masonry Materials and Methods](#)
- [04200 Masonry Units](#)
- [04400 Stone](#)
- [04500 Refractories](#)
- [04600 Corrosion-Resistant Masonry](#)
- [04700 Simulated Masonry](#)
- [04800 Masonry Assemblies](#)
- [04900 Masonry Restoration and Cleaning](#)



04210 Clay Masonry Unit

042100 Clay Unit Masonry

04211 Brick Masonry

04220 Concrete Masonry Unit

- Concrete Brick
- Exposed Aggregate Concrete Masonry Units
- Fluted Concrete Masonry Units
- Interlocking Concrete Masonry Units
- Molded - Face Concrete Masonry Units
- Prefaced Concrete Masonry Units
- Preinsulated Concrete Masonry Units
- Sound - Absorbing Concrete Masonry Units
- Split - Face Concrete Masonry Units

OPPORTUNITIES

Connectivity & Convergence

A SUBSTRUCTURE

- A10 Foundations
- A20 Basement Construction

B SHELL

- B10 Superstructure
- B20 Exterior Closure
- B30 Roofing

C INTERIORS

- C10 Interior Construction
- C20 Stairways
- C30 Interior Finishes

D SERVICES

- D10 Conveying Systems
- D20 Plumbing Systems
- D30 Heating, Ventilating, and Air-Conditioning (HVAC) Systems
- D40 Fire Protection Systems
- D50 Electrical Systems

E EQUIPMENT AND FURNISHINGS

- E10 Equipment
- E20 Furnishings

F OTHER BUILDING CONSTRUCTION

- F10 Special Construction
- F20 Selective Demolition

G BUILDING SITEWORK

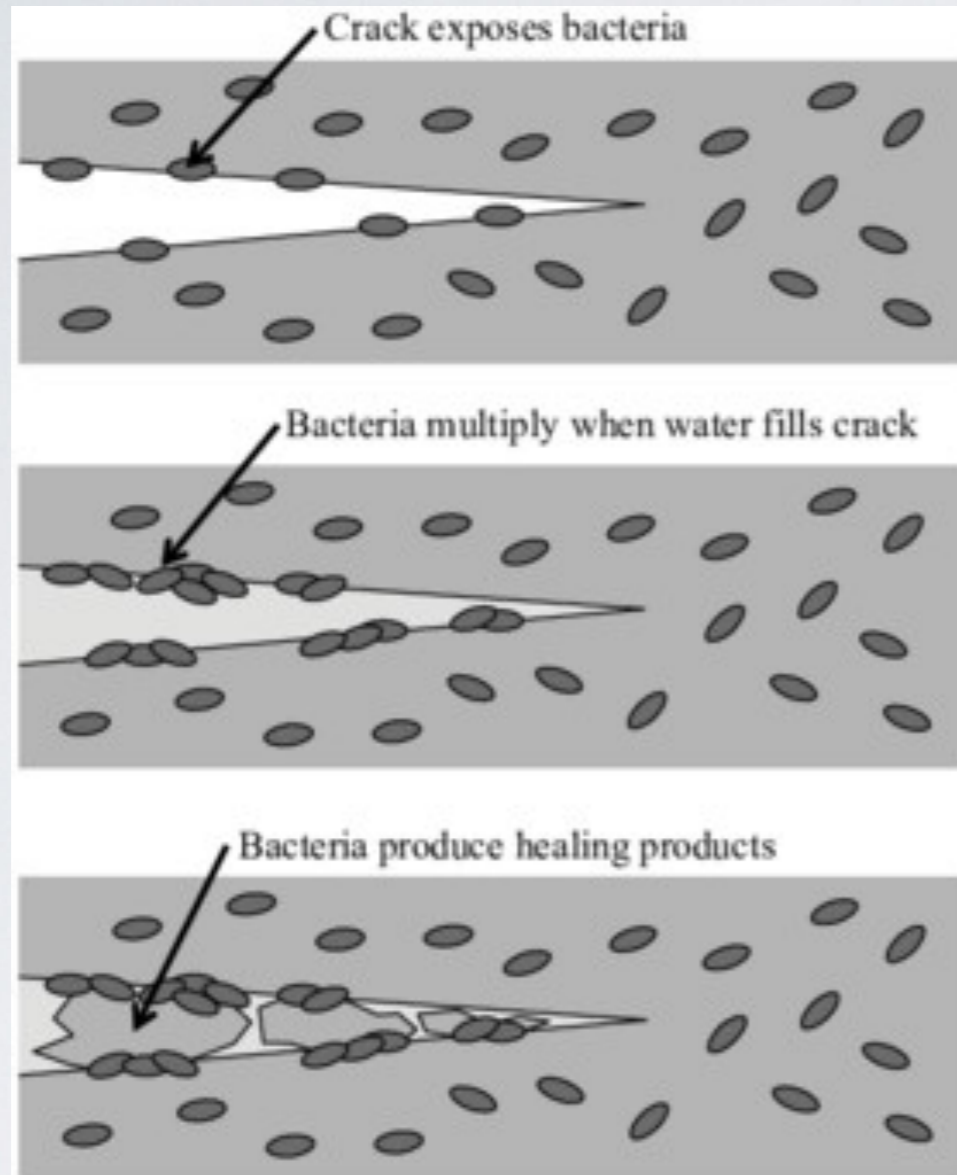
- G10 Site Preparation
- G20 Site Improvements
- G30 Site Plumbing Utilities
- G40 Site Heating, Ventilating, and Air-Conditioning (HVAC) Utilities
- G50 Site Electrical Utilities
- G60 Other Site Construction

Z GENERAL

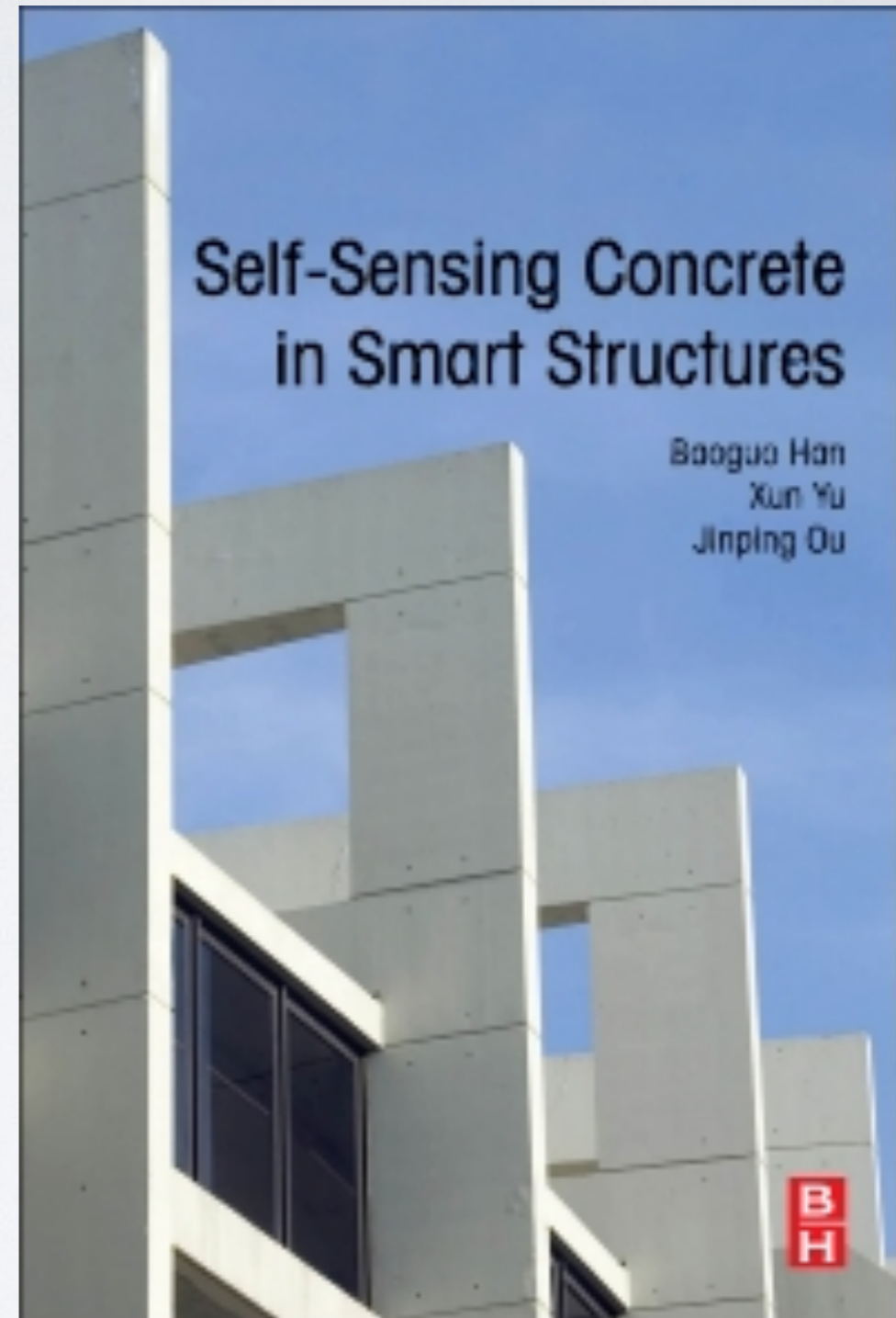
- Z10 General Requirements
- Z20 Bidding Requirements, Contract Forms, and Conditions
- Z90 Project Cost Estimate

OPPORTUNITIES

Connectivity & Convergence
Green/Smart Materials



Self Healing Concrete



OPPORTUNITIES

Connectivity & Convergence
3D Printing



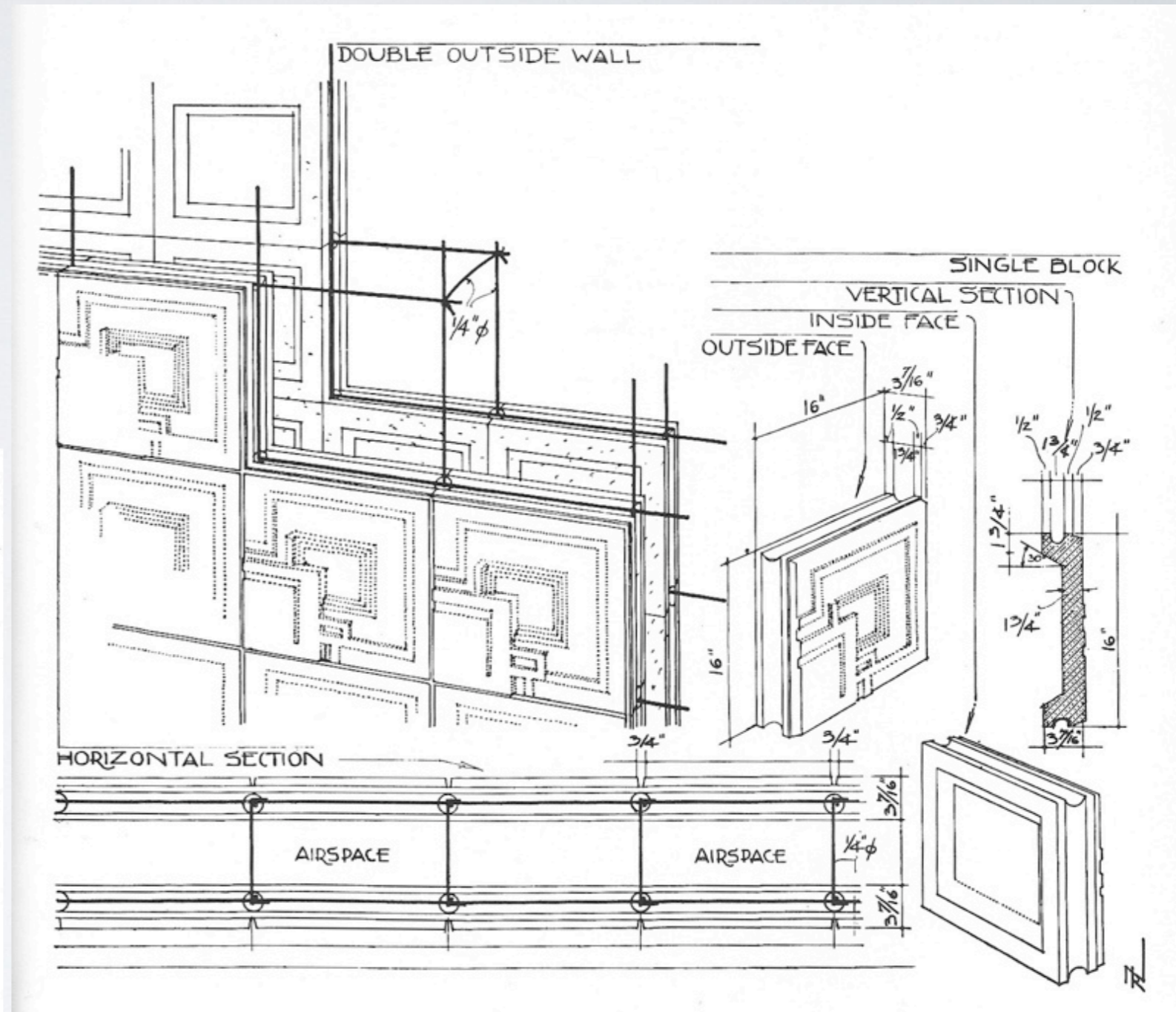
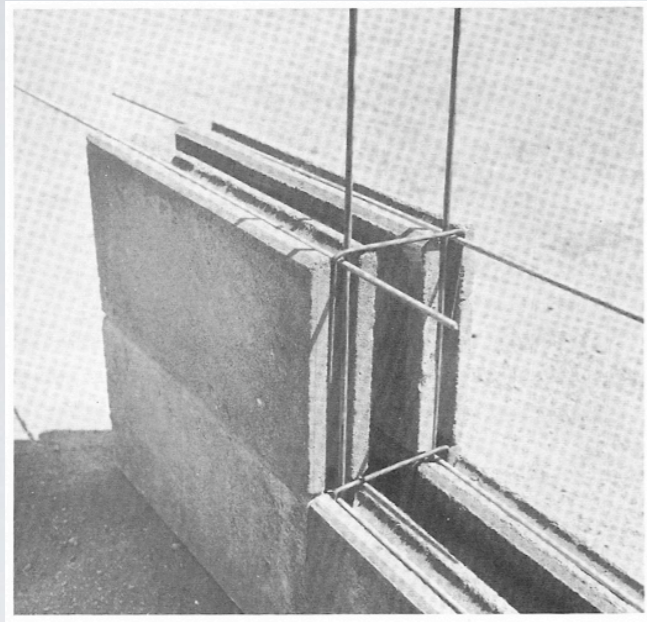
OPPORTUNITIES

Connectivity & Convergence
Usonian House

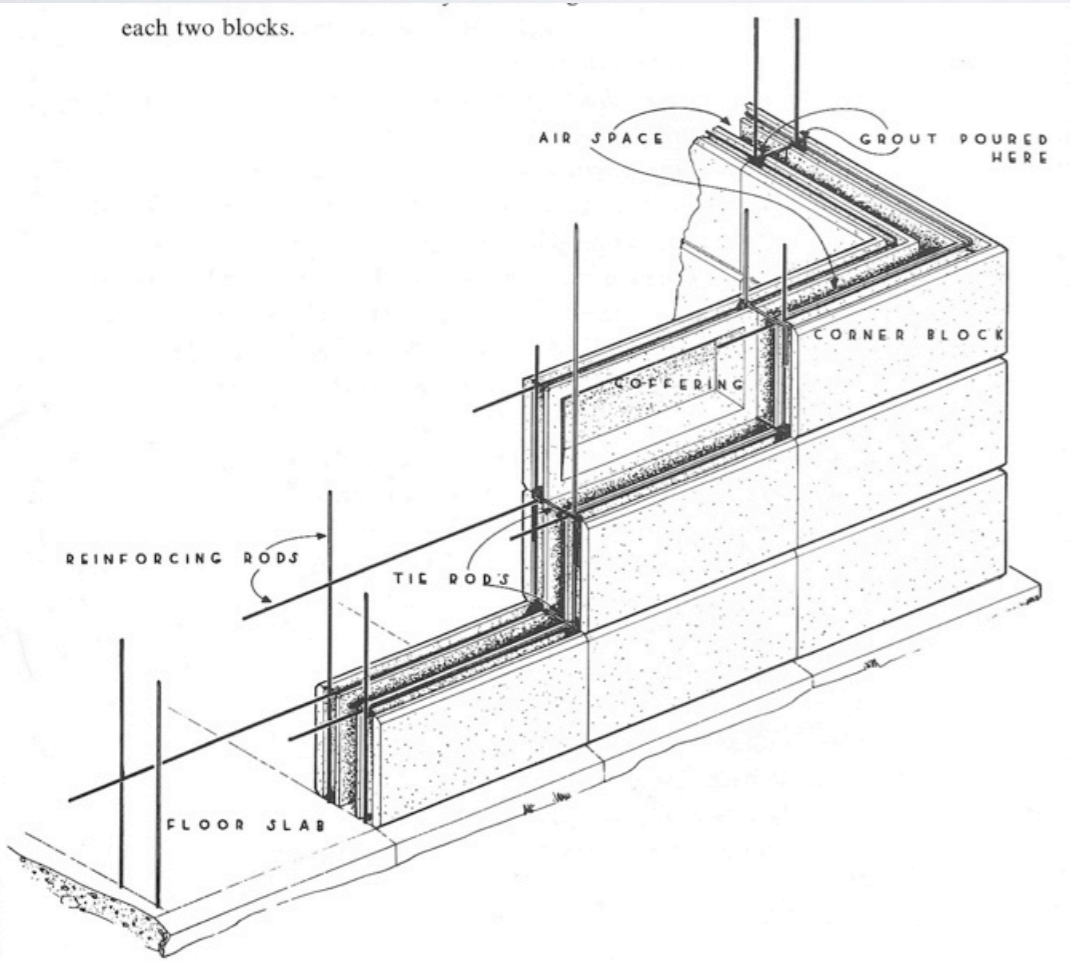


OPPORTUNITIES

Connectivity & Convergence Usonian House



each two blocks.

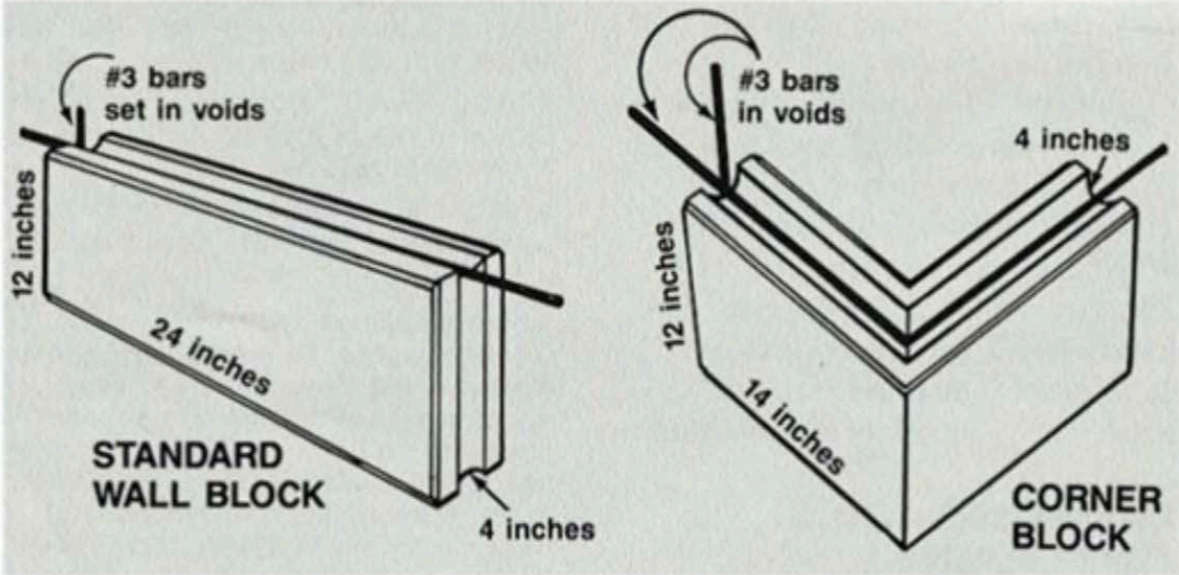


OPPORTUNITIES

Connectivity & Convergence Usonian House


ABOUT CONTACT **EVALUATE YOUR PROJECT**

Bautex THE BAUTEX WALL SYSTEM TECHNICAL SUPPORT RESOURCES CASE STUDIES BLOG



12 inches
24 inches
4 inches
#3 bars set in voids
STANDARD WALL BLOCK

12 inches
14 inches
4 inches
#3 bars in voids
CORNER BLOCK



Bautex Composite Block

Source: Bautex

OPPORTUNITIES

Climate Change



Source: DailyMail.com

FINAL THOUGHTS

- Product vs. Solution
 - Sell the sizzle, not the steak.
 - We don't sell drills, we sell holes.
- Lateral Connections
- Ready, Aim, Fire