

A faint, light gray world map is centered in the background of the slide. The map shows the continents of North America, South America, Europe, Africa, Asia, and Australia. The title text is overlaid on the map.

# SRI International Intro Presentation

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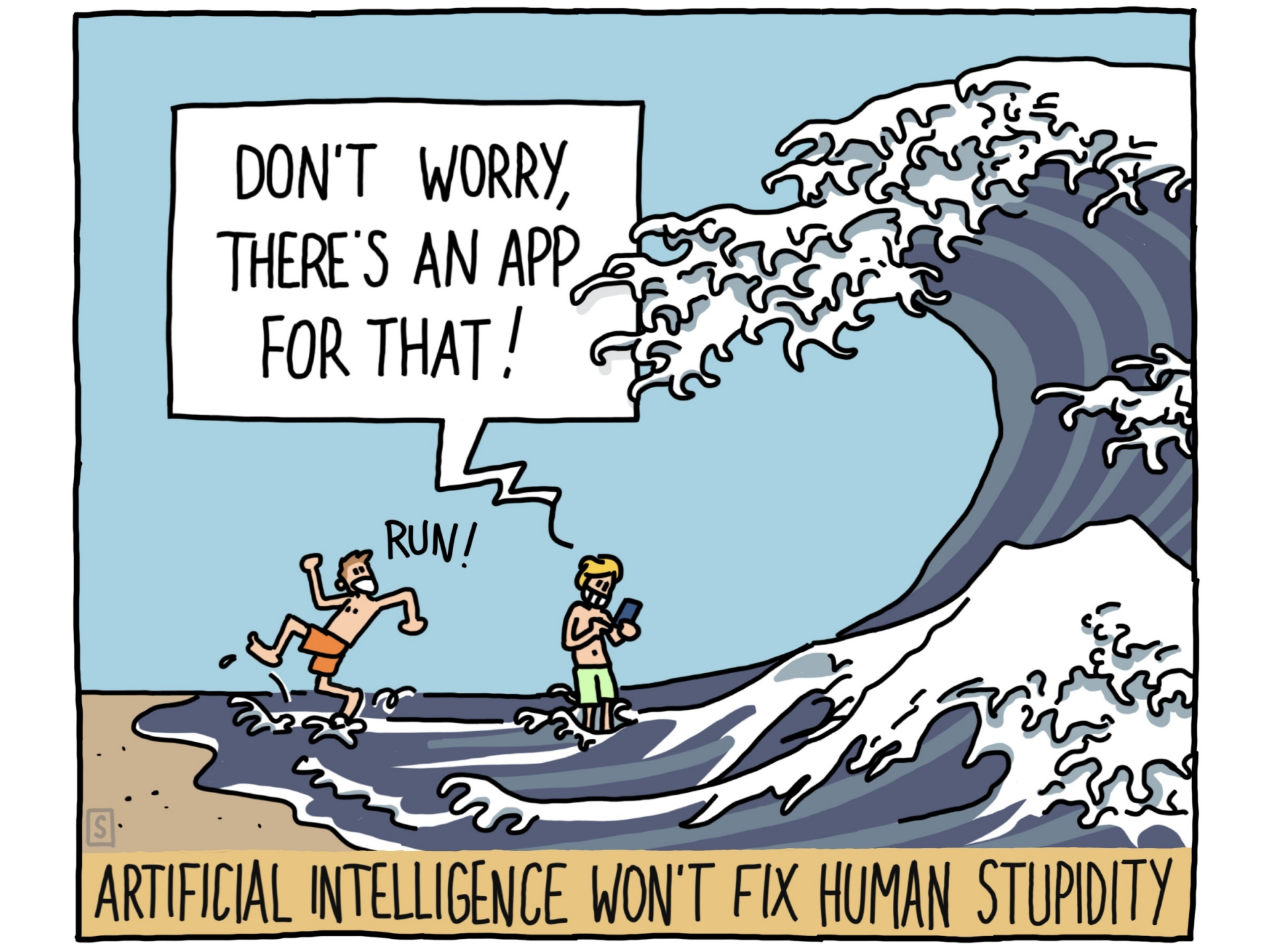
**Mats Eliasson**

Director Business Development, Nordics / Europe

**Robert Pearlstein**

Vice President, Corporate and International Business Development

August, 2017



DON'T WORRY,  
THERE'S AN APP  
FOR THAT!

RUN!

ARTIFICIAL INTELLIGENCE WON'T FIX HUMAN STUPIDITY

# What sets SRI apart

## Not-for-profit:

Return on investment is measured by impact, not dollars

## Science-focused:

Build on technology platforms to fill gaps in customer needs

## Multidisciplinary:

Breadth and depth to solve the hardest problems

## Independence:

Focused on our customers with the responsibility to see “beyond the headlights”

## Perspective:

Located in the heart of silicon valley, working with 100s of partners around the globe



# SRI – Who We Are

A world-leading independent R&D organization

- Founded by Stanford in 1946
  - Located in heart of Silicon Valley
  - More than 10 locations worldwide
  - Not-for-profit corporation
  - Independent in 1970
- 2,100 staff members
  - More than half with advanced degrees
- Consolidated 2014 revenue ~\$550M



Headquarters — Menlo Park, California




Princeton, New Jersey





# Important Mission

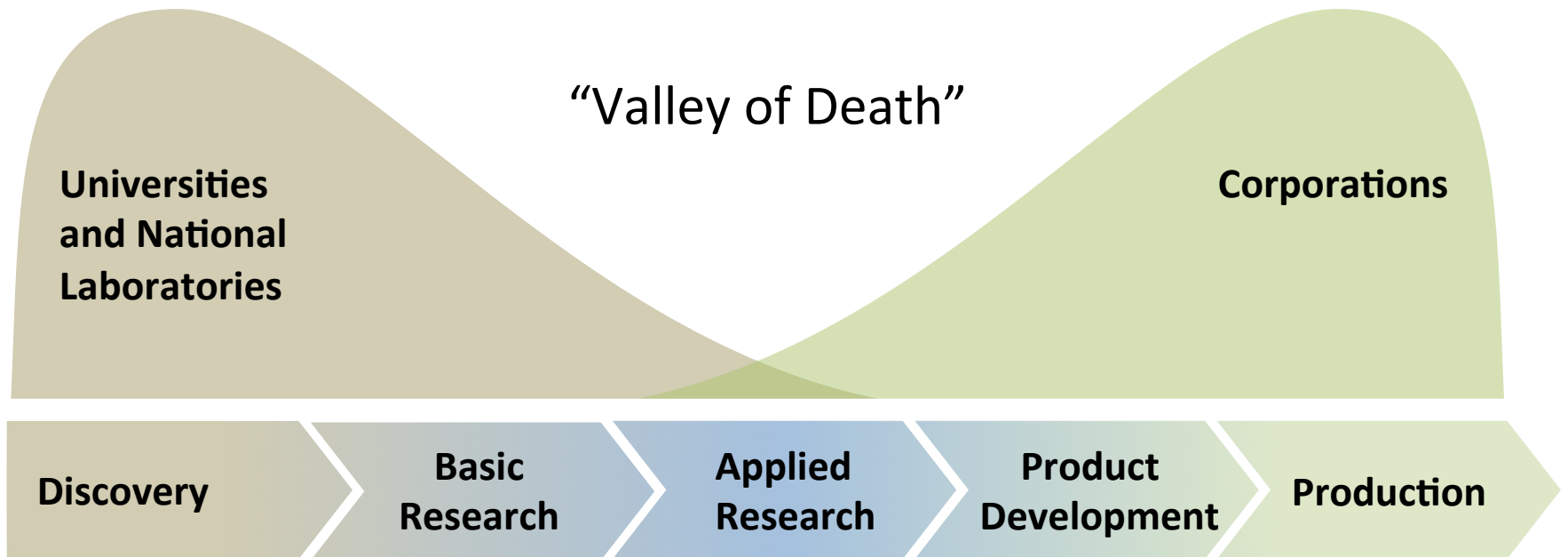
Providing value from Silicon Valley to our clients worldwide



Creating world changing solutions to make people safer, healthier, and more productive

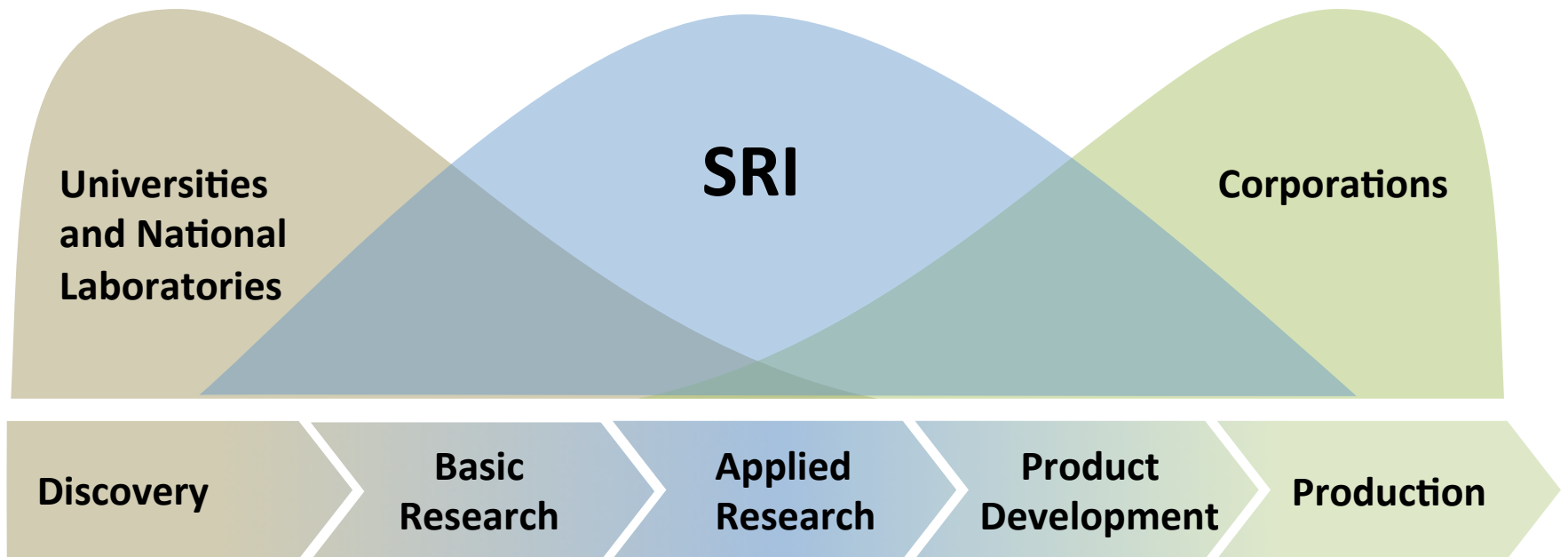
# Bridging Basic Research to Commercialization

*Easy to describe, very challenging to do!*



# Bridging Basic Research to Commercialization

*Easy to describe, very challenging to do!*



We represent the essence of how Silicon Valley works





Earth & Space



Sensing & Devices



Health & Biomedical Sciences



Robotics & Automation

# SRI International



Information & Computing



Innovation & Economic Dev.



Chemistry & Materials



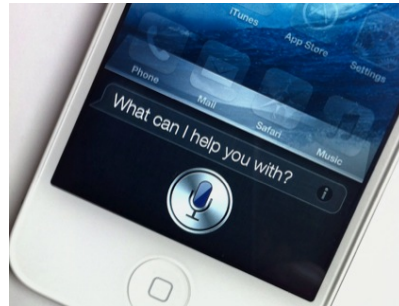
Education & Learning



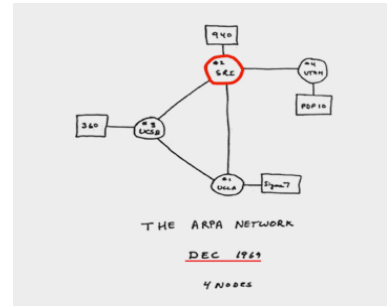
# Our legacy of world-changing innovations



First computer mouse



Created Siri  
(acquired by Apple)



First ARPANET and  
internetworking nodes

.com  
.gov  
.org

First assigned domain names



First telerobotic  
surgical system



Ultrasound for  
medical diagnostics



New drug for lymphoma



U.S. Dept. of Education 2010  
technology plan



Vision technologies  
(HDTV, Color TV, etc.)



Emmy Awards for HDTV  
and more



Developed SWOT analysis



1<sup>st</sup> Disneyland theme park

# Yamaha Motors: Step 4: Selection

Build an intelligent motobot applying SRI technology

- SRI Robotic Platform
- SRI AI Platform
- SRI Vision technology Platform
- SRI Custom R&D





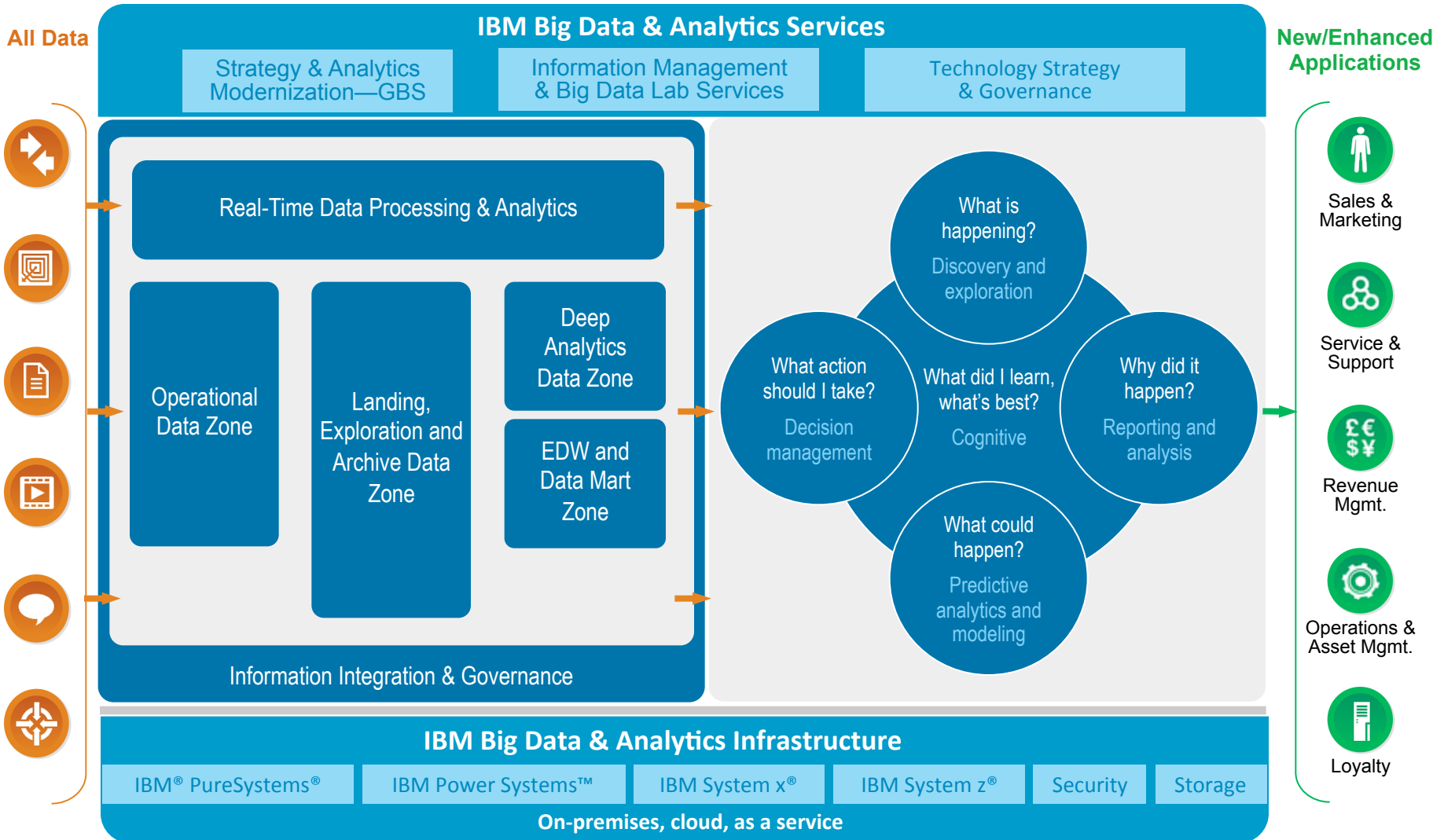
Creation of data drives demand for insights through analytics . . .

Every day, we create 2.5 quintillion bytes of data

- so much that 90% of the data in the world today has been created in the last 2 years



# A new architectural approach is required to address the challenges and opportunities



A close-up, high-angle photograph of an aircraft engine's fan section. The image shows the curved, metallic casing of the fan and the numerous, dark, pointed blades arranged in a radial pattern. The lighting is dramatic, highlighting the metallic surfaces and the depth of the fan's structure.

## Pratt & Whitney

An aircraft engine manufacturer uses predictive analytics to prevent costly aircraft-on-ground events

### Need


- Lacked holistic way of integrating high volumes of sensor data with other data and
- 360-degree dashboard visualization of engine-fleet health and risk status
- Prevent engine issues and avoid millions of dollars in costs associated with grounded planes

### Benefits

- 100% prediction of aircraft-on-the-ground events for high-risk engines
- 97% accuracy in predicting engine events that lead to airline disruption
- USD63 million in extrapolated cost savings to airlines if prediction had been available in the previous year

*The analytics solution helps us answer, at a glance, the big question: how is our engine fleet doing today?*





# Daimler FleetBoard optimizes operations, efficiency and environmental protection with business analytics

## Need

- Scan, transmit and integrate data on each vehicle's status and position in real time to help logistics companies optimize operations

## Benefits

- Reduces fuel consumption by five to 10 percent by analyzing driving techniques and re-educating drivers.
- Avoids downtime and extends maintenance intervals
- Increases the flexibility and improves the decision-making of the logistics companies
- Optimizes the haulage business through dynamic route-planning based on real-time monitoring of vehicles' positions.

**FLEETBOARD**





# DIGITAL DELTA

USING BIG DATA TO TRANSFORM MANAGEMENT OF THE DUTCH WATER SYSTEM AND HELP KEEP THE COUNTRY SAFE



## WATER AROUND THE WORLD



**€600 million**

European annual expected loss from storm surge for North Sea countries



**€37 billion**

Estimated damage of Hurricane Sandy



**€8 billion**

Germany's aid fund for June 2013 floods



**€8.7 billion**

Costs of 2003 drought to the EU economy

## HOW FLOODS IMPACT NETHERLANDS



**16,496 km**

Extent of Deltaworks dikes - one of the most extensive engineering projects in the world



**€7 billion**

Annual water management costs + incremental €2 billion per annum



**66%**

Population living in flood prone areas



**Rotterdam**

Largest European logistics hub which supplies 75% of Western Europe



**70%**

Percentage of GDP at risk from flooding



**1:10,000**

The Dutch protective system is designed for 1 in 10,000 years flood event

## DROUGHT BRINGS CHALLENGES TOO



**€400 million**

Annual average losses to Dutch agriculture due to drought



**€5 billion**

Damage to infrastructure due to low groundwater levels. May increase to €40 billion by end of century



**Up to 19%**

Average decrease in capacity of power plants in Europe due to drought

## KEEPING DATA FLUID



**20%-30%**

Potential cost reduction of managing future water projects



**75%**

Reduction in scientific research & development time due to smarter information sharing



**32 terabytes**

Potential volume of data produced by a single water management project (approx. 7 billion pages of text)



**2 million**

Streaming sets of data produced by 450 monitoring stations every day

Join the conversation  
[@IBMBigData](#) or [#BigData](#)





# IBM's vision for "Smarter Agribusiness" involves the innovative use of technology to improve food science, safety, sustainability, production and supply chain efficiencies

Smarter Agribusiness means:

- enabling end-to-end visibility across the global supply chain through more connected, instrumented and intelligent systems that provide more and better information across the global web of input suppliers, growers, packers, shippers, processors and retailers

So that:

- resources are managed more efficiently and sustainably
- people have more confidence in the quality and safety of their food
- agriculture productivity increases
- the whole world can put healthy meals on the table





# E.&J. Gallo Winery uses big data analytics to conserve water and increase fertilizing efficiency for greater crop yield

**10 - 20% increase**

in crop yield with precision irrigation techniques

**20% decrease**

in water consumption from precise irrigation management

**Improves quality**

and consistency of both the grapes and the end product



**Business Challenge:** Uniform watering and fertilization across a vineyard with varying soil characteristics can result in producing grapes that are anything but uniform in quality. This winemaker wanted to increase the quality and quantity of its crops while maintaining sustainable irrigation and fertilization practices.

**The Smarter Solution:** E.&J. Gallo Winery is bringing together innovative sensing technologies, physics and big data analytics to increase crop yield and conserve water. Advanced analytics calculate optimum water and fertilization needs by plant, rather than vineyard, based on soil mapping, high-resolution satellite data and farm-level observations. Then a fully automated irrigation system delivers water and fertilizer precisely when and where needed.

*“The solution provides a precise and environmentally conscious method of increasing our grape yield and fruit quality while conserving water.”*  
—Luis Sanchez, senior research scientist

## Solution Components

- IBM® Research
- IBM Global Business Services® – Application Innovation Services



**SMART CITY DESIGN  
BEGINS WITH  
UNPROTECTED  
PEOPLE**





How might we use technology to guarantee healthy, safe + sufficient food for everyone?

# INTERNET OF FOOD

JOIN THE CONVERSATION FEB 17 - APRIL 2



Johan Jörgensen

<http://internet-of-food.org/our-staff/johan-jorgensen/>



FOOD • TECH  
CONNECT

+



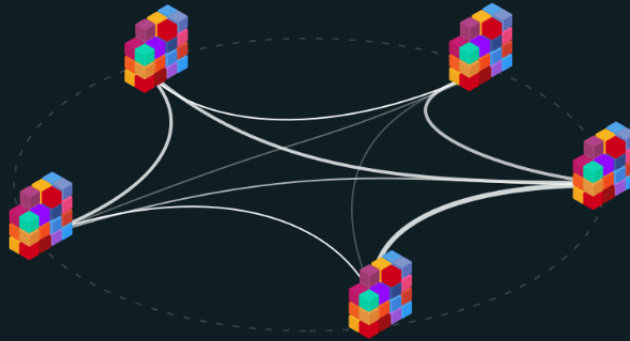




# ethereum

## HOMESTEAD RELEASE

BLOCKCHAIN APP PLATFORM



*On traditional server architectures, every application has to set up its own servers that run their own code in isolated silos, making sharing of data hard.*

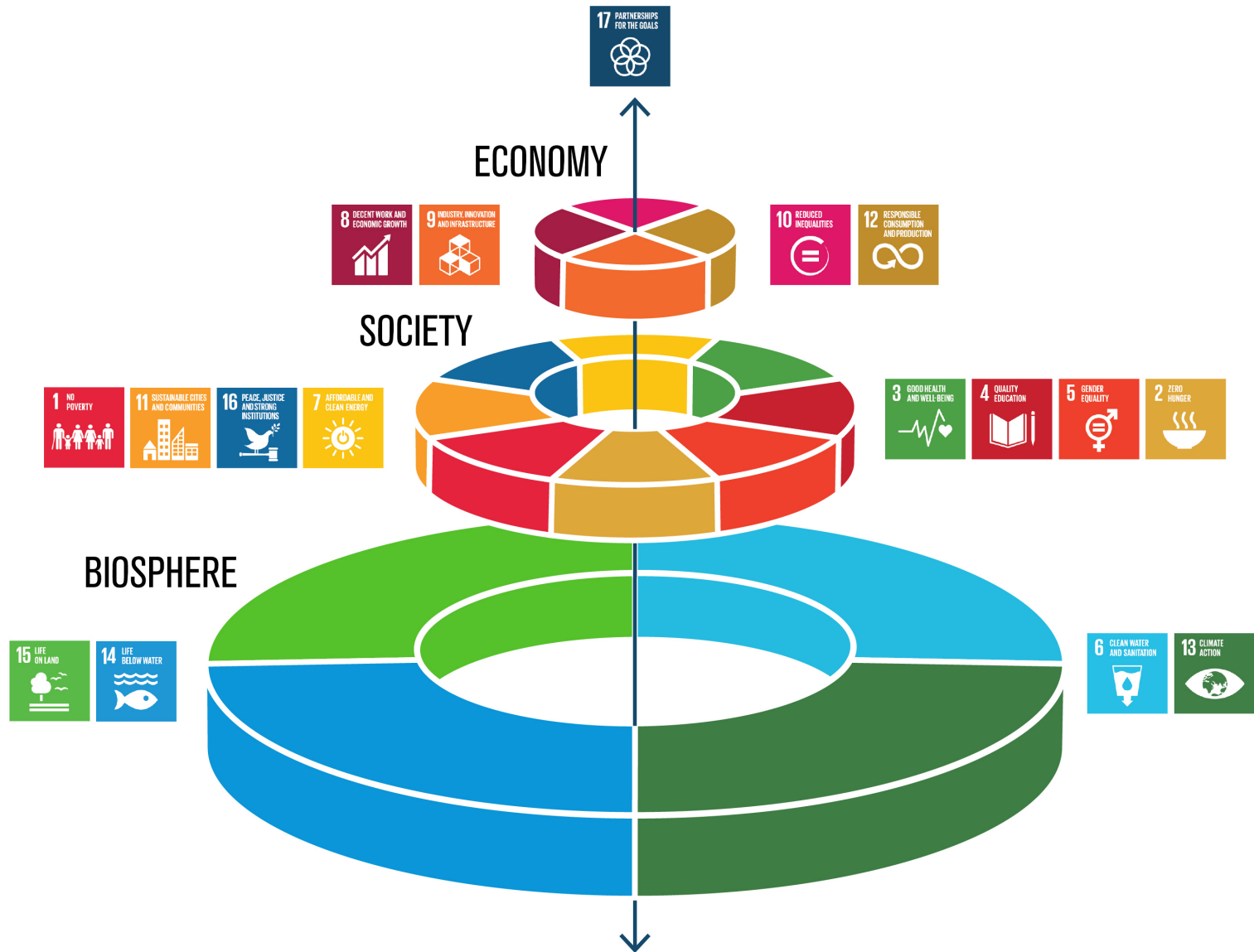
*If a single app is compromised or goes offline, many users and other apps are affected.*

*On a blockchain, anyone can set up a node that replicates the necessary data for all nodes to reach an agreement and be compensated by users and app developers.*

*This allows user data to remain private and apps to be decentralized like the Internet was supposed to work.*

# AN OPERATOR'S NETWORK – MULTIPLE INDUSTRIES







# The “Tesla of Ecovillages”

**REGEN VILLAGES**



**EFFEKT**

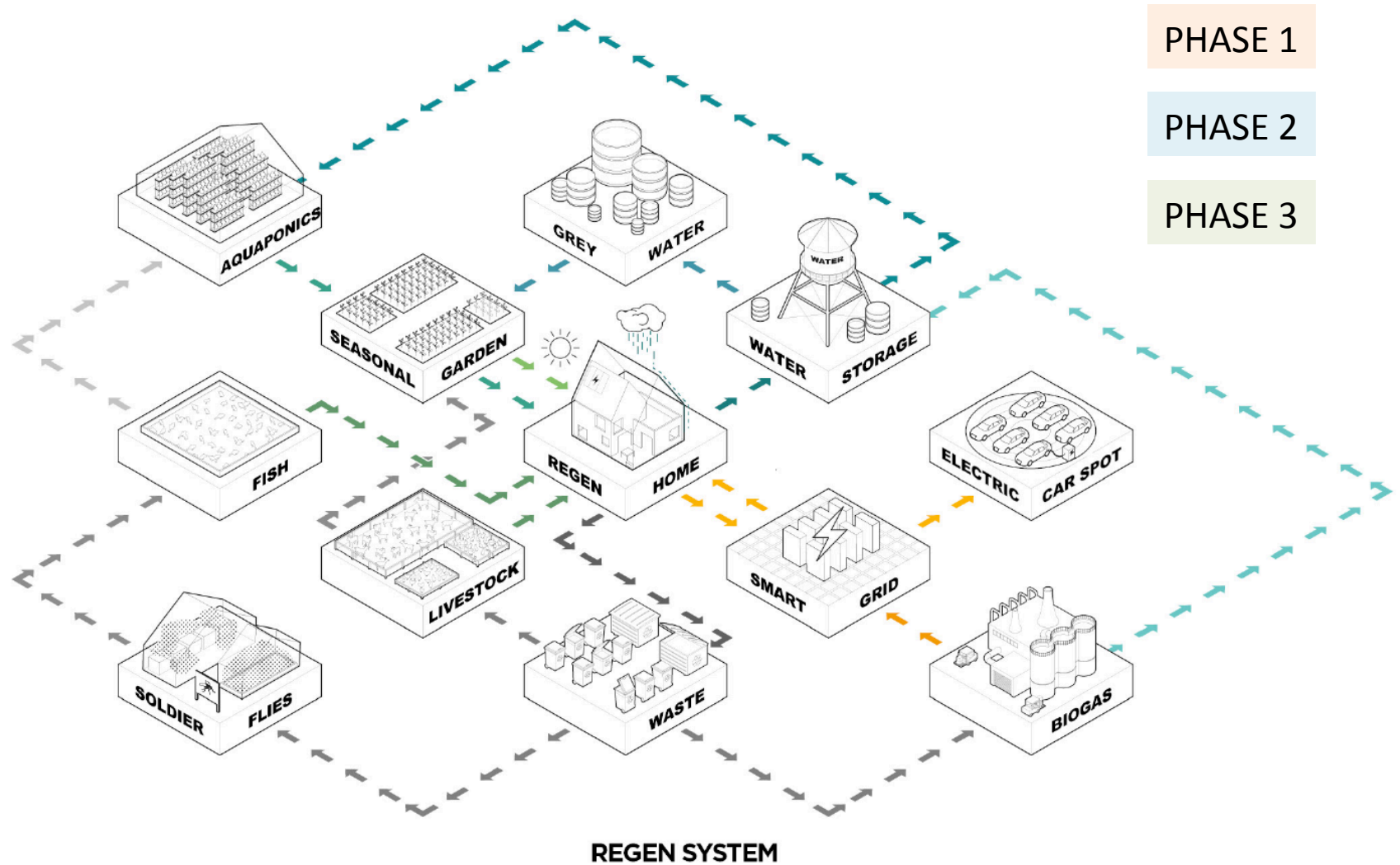




Stanford  
University



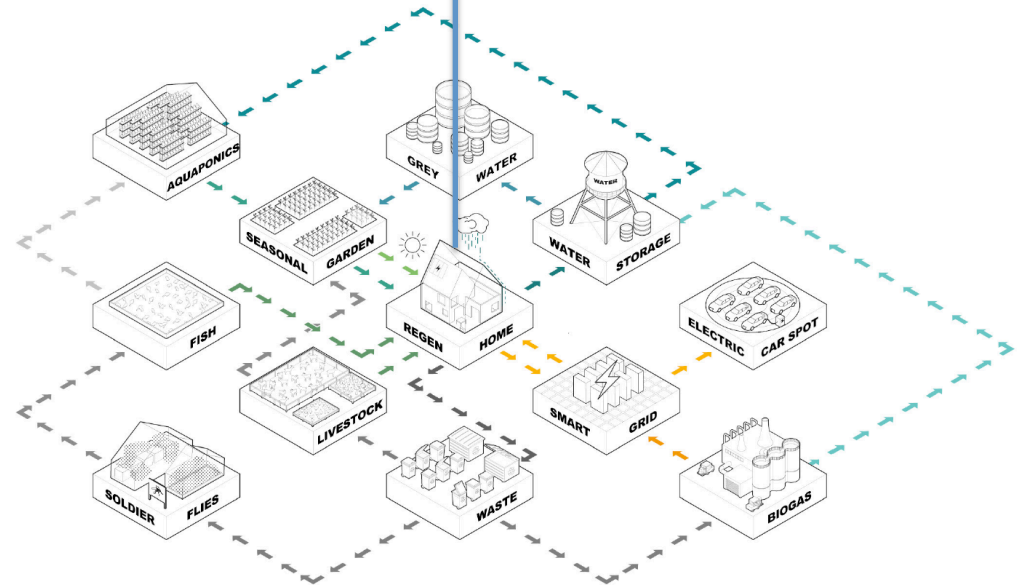
# Output from one system = Input to another system



**Environmentally** sustainable

**Socially** sustainable

**Economically** sustainable



REGEN SYSTEM



## TECHNOLOGY PLATFORM PARTNERS



## UNIVERSITY RESEARCH IN RESILIENCY &



Thank you...