



## RE-Invent IT Initiative

- "sometimes  
it's the journey  
that teaches  
you a lot about  
your  
destination" -

Drake

**STKI's RE-INVENTION  
INITIATIVES**





# Re-inventing IT Initiative

*“one foot on the gas pedal and one foot on the brakes”*

**STKI's RE-INVENTION INITIATIVES**





# Re-Invent IT & Cloud Stakeholders:



New *strategies & data-based optimization* procurement

redesign *core systems, data centers, & automate processes* (with high SLA)

*insights* (algorithms) based decision making

manage "data" (uses, monetization and regulation) and ONE version of the truth



VP Technologies (used to be called CIO)



Procurement Managers



CFO



IT Managers

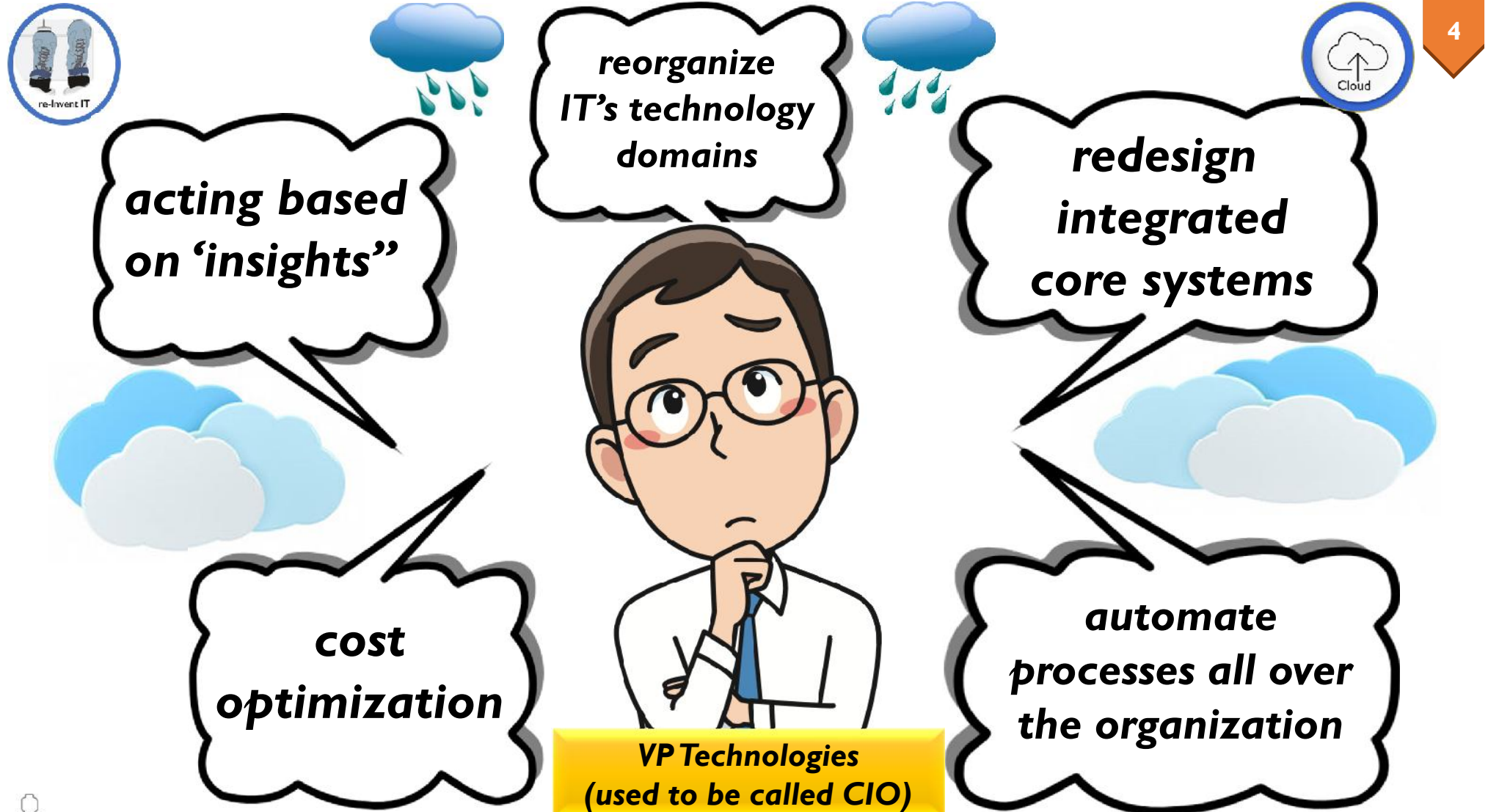


LoB Managers

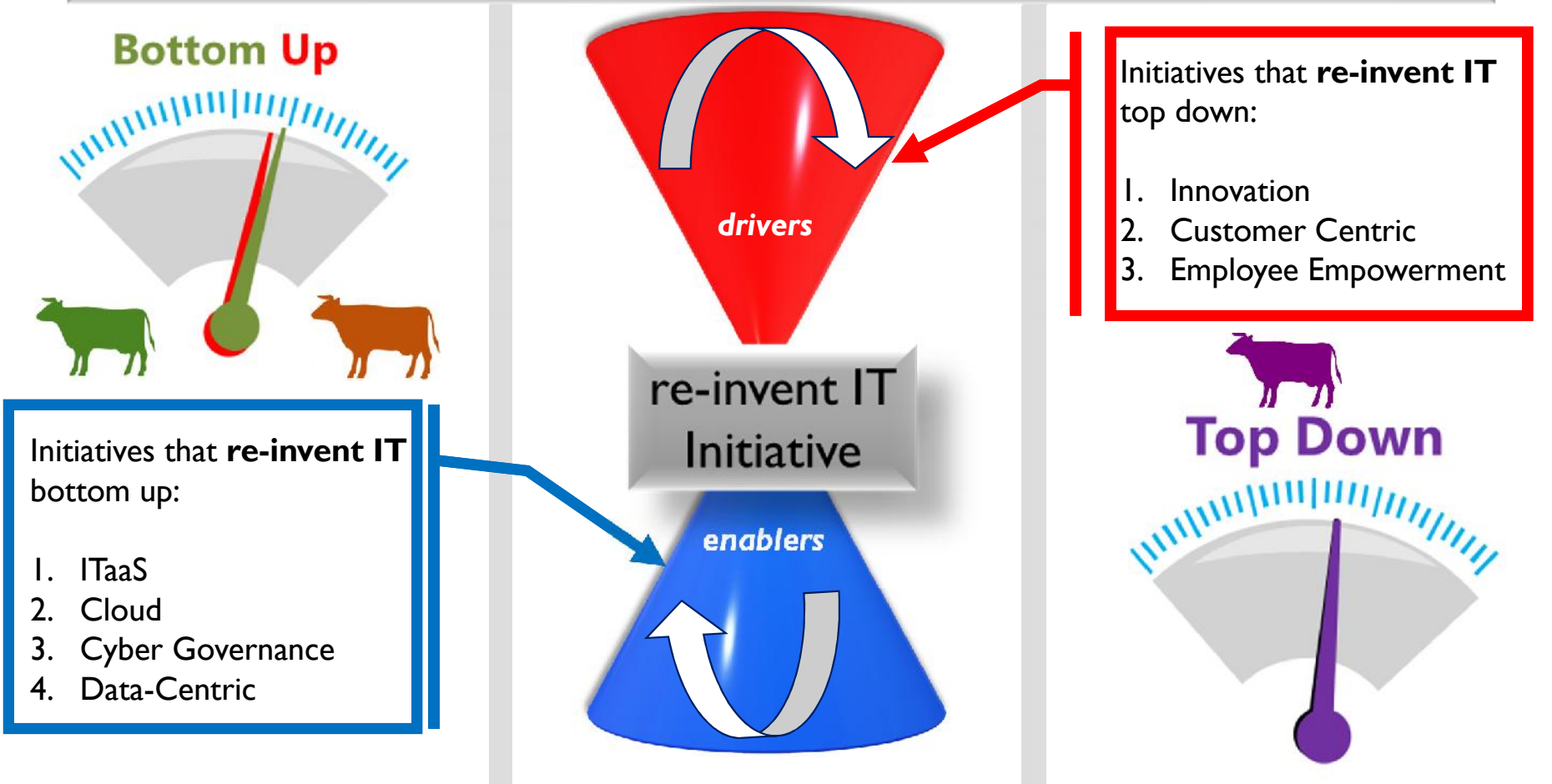


Chief Data Officer





these initiatives fundamentally **reshape how work gets done** and set the stage for **new products and business models**





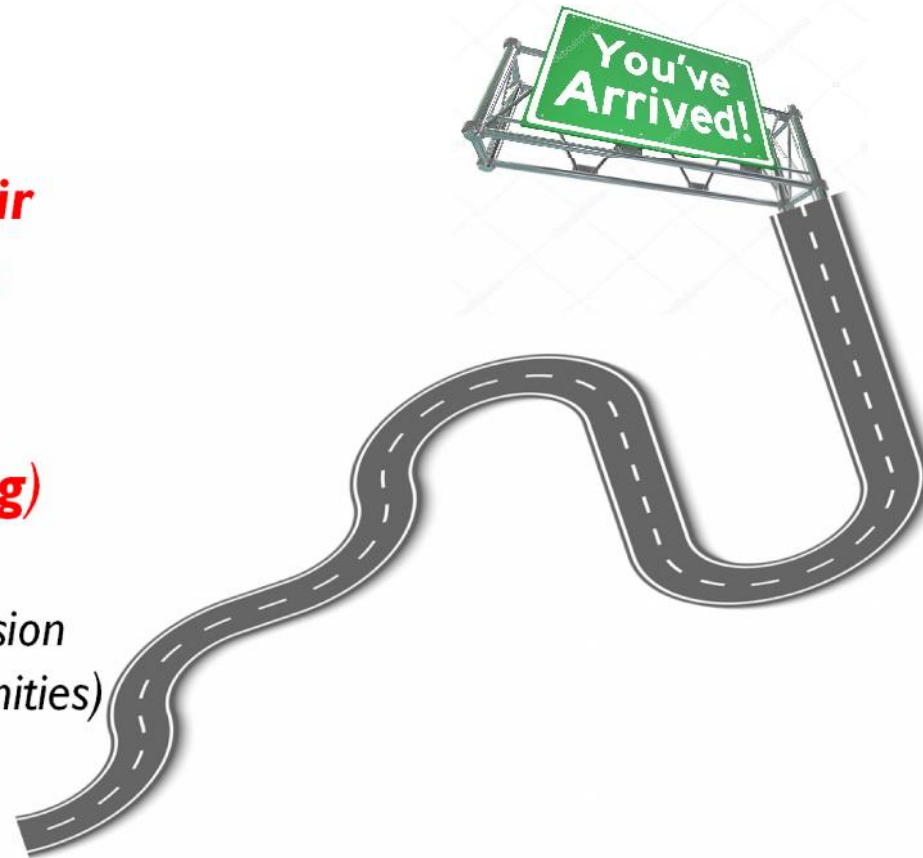
# Re-Invent IT Initiative Destination

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## Why?

Organizations are **transforming their IT departments** into engines for **driving (not only enabling) business**

(growth, algorithmic decision making and new opportunities)



CIO's **failure** to **"re-invent IT"** may lead to his **transition out** of the company



## VP Tech (CIOs) have to re-invent IT so that

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Business in the **age of innovation** means that:

-” **organizations use a mix of technologies, processes and smart decision making to maximize the company’s competitive advantage.**”-

1. **shift in the role of the CIO** from **technology operations manager** to **THE strategic business change leader**
2. company’s systems and all of its partners’ should be part of an **ecosystem in which data moves seamlessly throughout.**
3. implement **one unified integrated core system** that encompasses all new processes (human and robotic)
4. Enabling prescriptive and preventive analytics so that all **actions are based on algorithmic integrated data systems.**

**customers expect a modernized experience online and mobile**

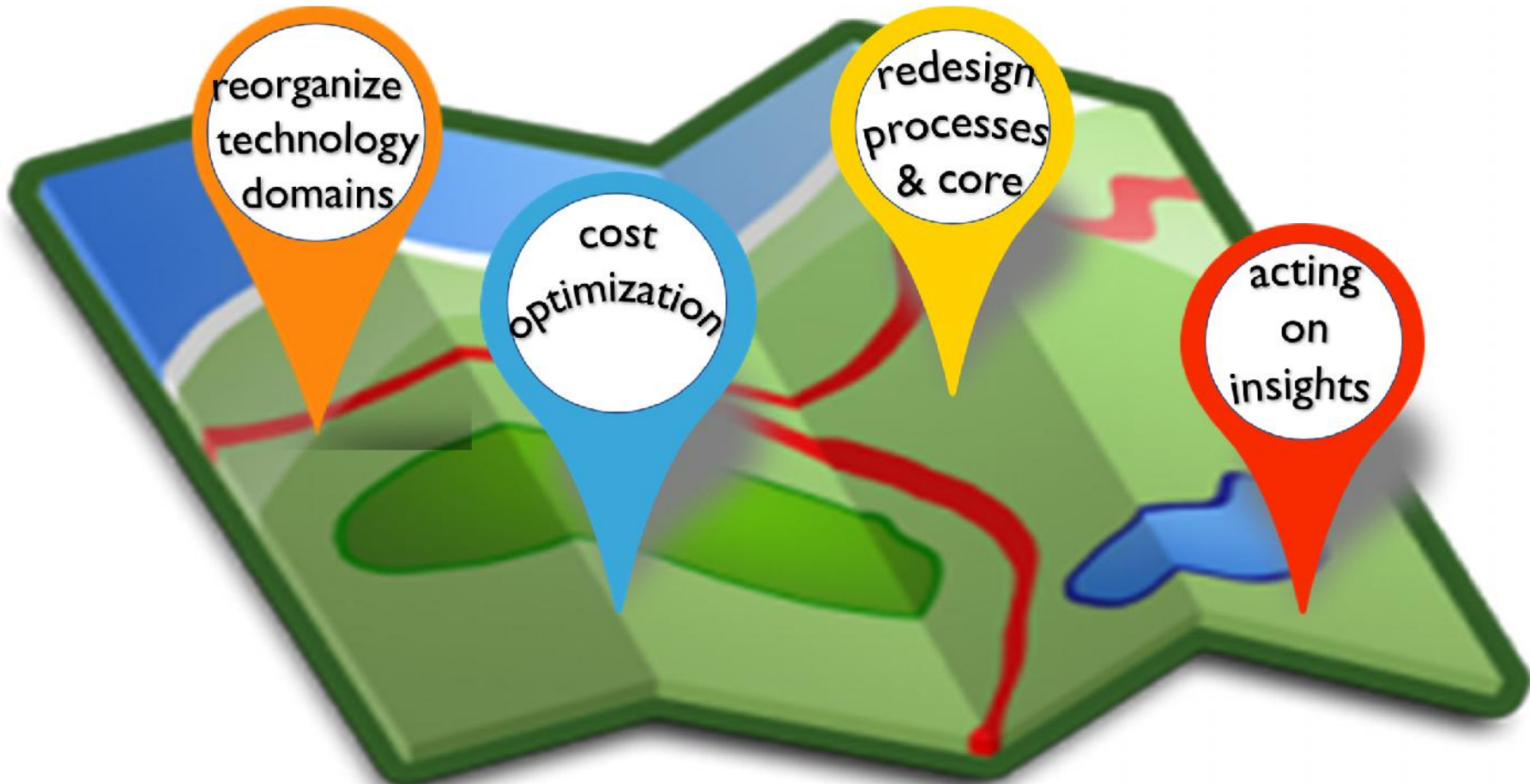
**This has led to an increased sense of competition**

**BUT, most systems are over 30 years old.**

**improvement or change are required in such a competitive technology market.**



# Re-invent IT Initiative







# Re-invent IT Initiative:

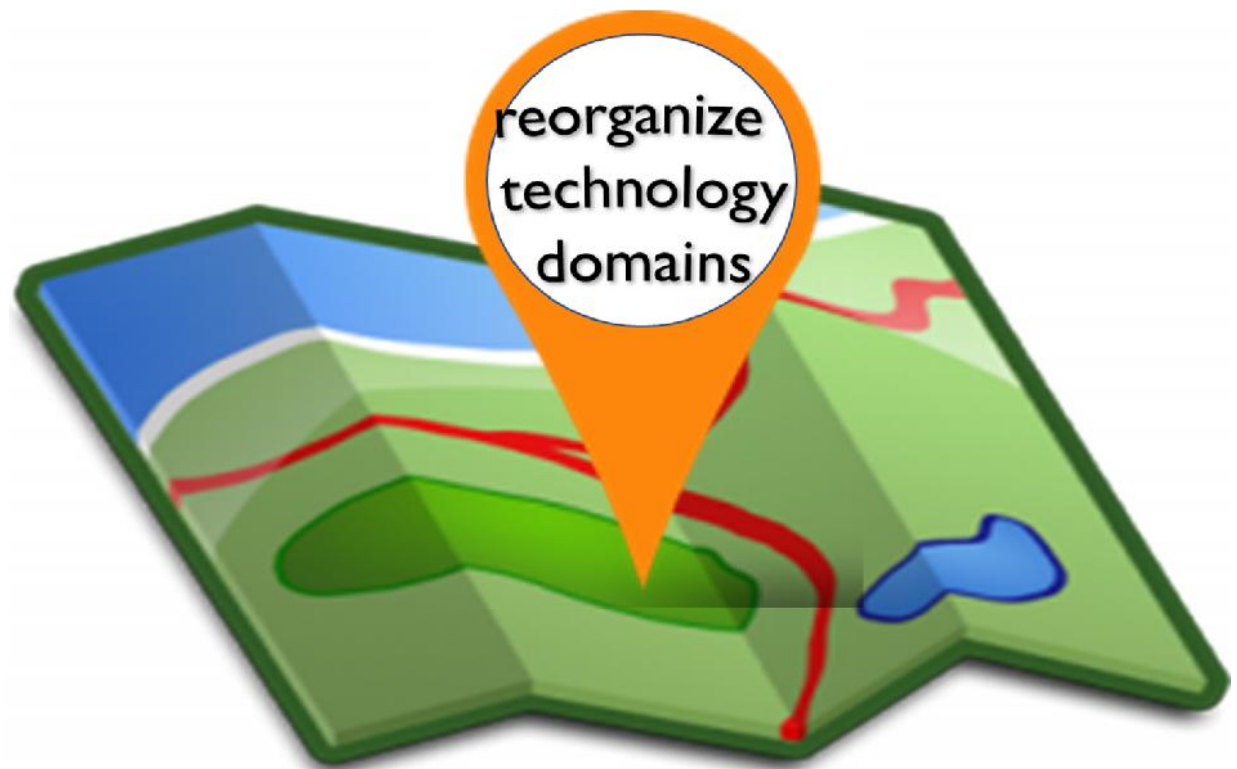
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## Trek Name:

reorganize technology domains

## Purpose:

how to organize a unified "effort" over individual domain-specific technological efforts.





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establish IT staff  
BRM, OCIO, CTO,  
architect  
מטה

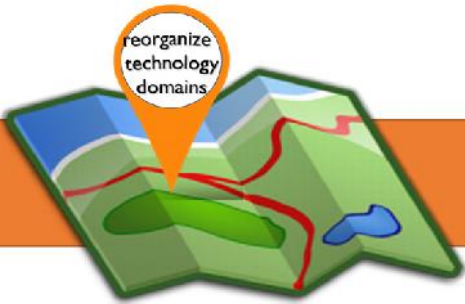
use hybrid cloud  
architectures

introduction of automation  
tools, RPAs, robo-tools  
and open APIs

reorganizing IT and  
breaking up silos

modernize infrastructure  
& architecture stack

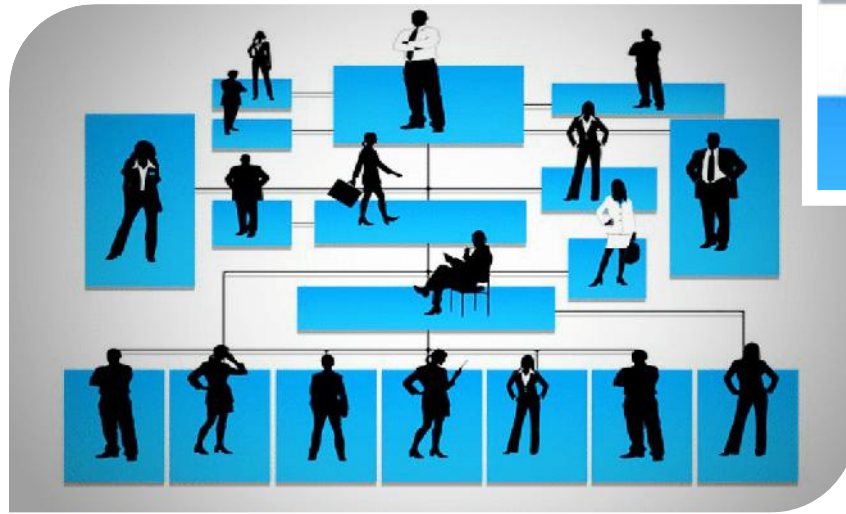
redesign IT delivery  
into the ITaaS model







Trek Name:  
**REORGANIZE TECHNOLOGY DOMAINS**



# Next organizational structure model



- move faster 
- adapt more quickly 
- learn more rapidly 
- embrace dynamic career demands 



# Enterprise organized by function or skillset is no longer valid



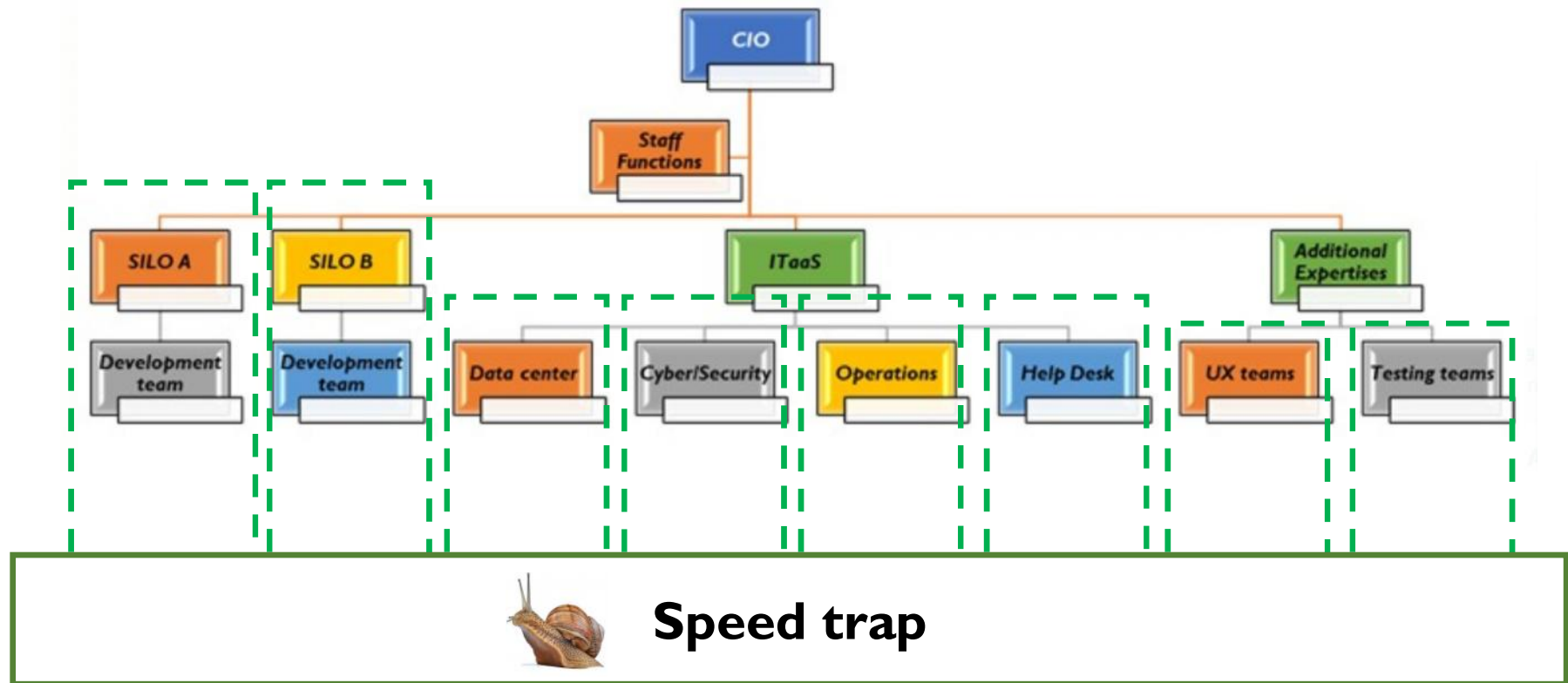
Here work people who understand the technologies

Here work people who understand the business





# Reorganizing IT structure and breaking down silos





- efficient & effective
- hierarchical
- functional
- lead by direction
- rule-based
- roles/jobs defined upward promoted
- process-based

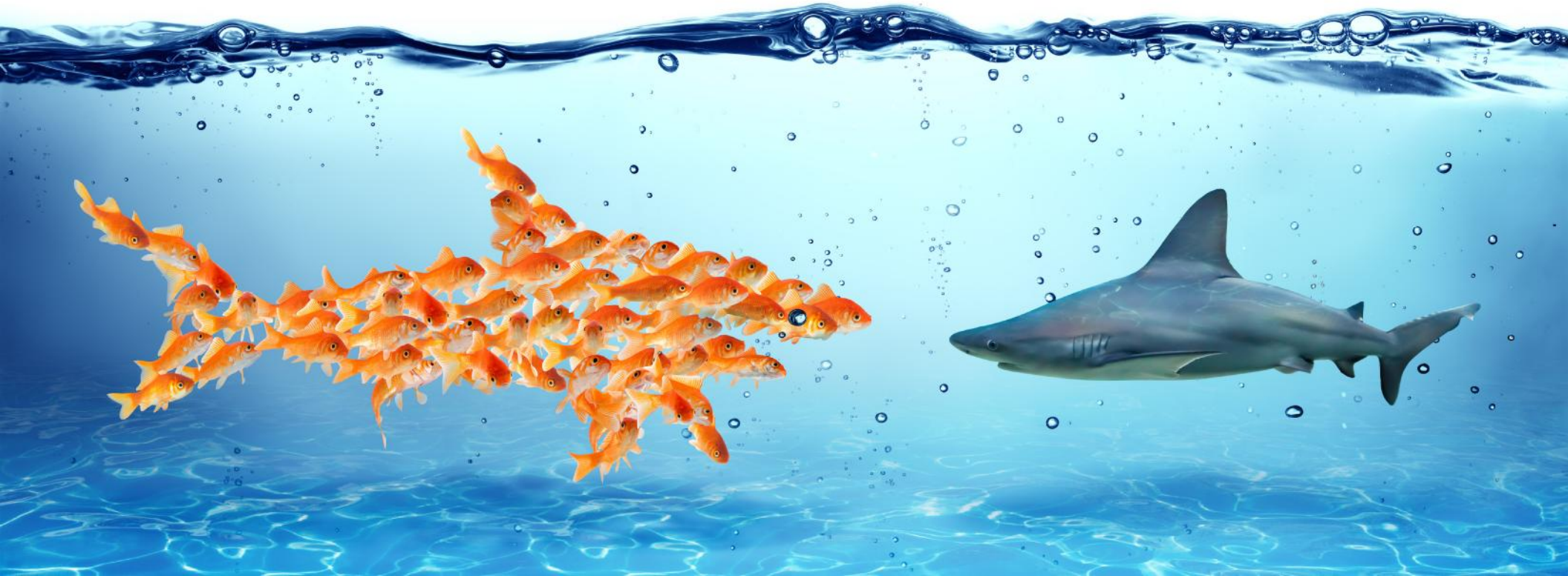
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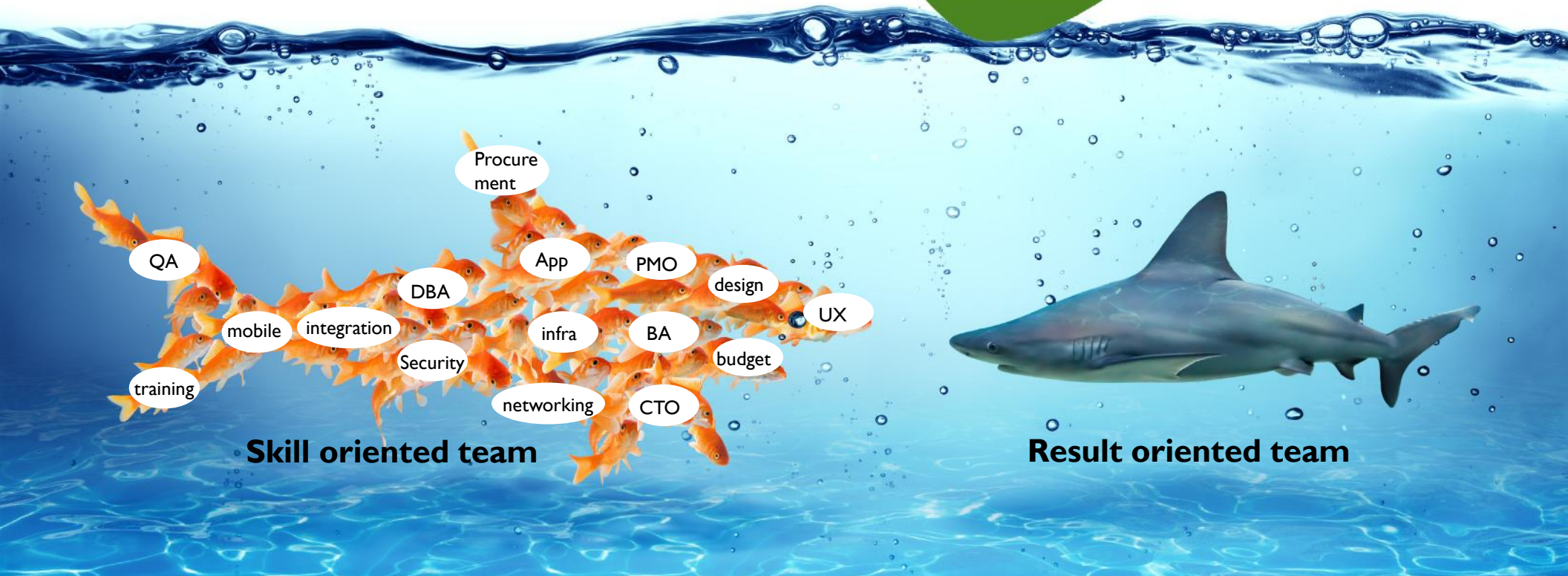
- learning and innovating
- network of agile teams (sharing knowledge)
- people “create followers” to grow in influence
- lead by orchestration
- culture of risk-taking
- teams and responsibilities defined but roles and titles change regularly
- project based

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# Multi skilled, **result** oriented team

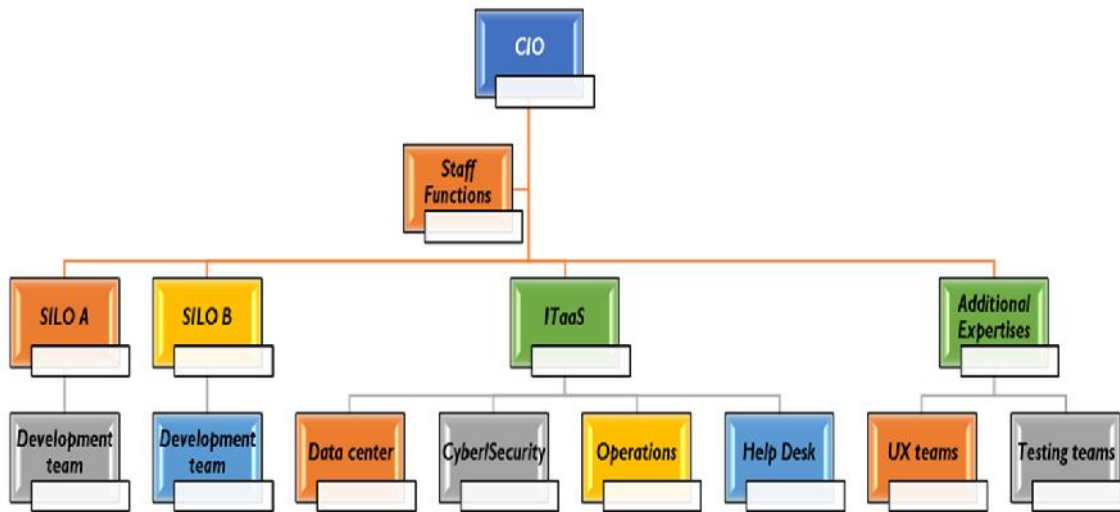




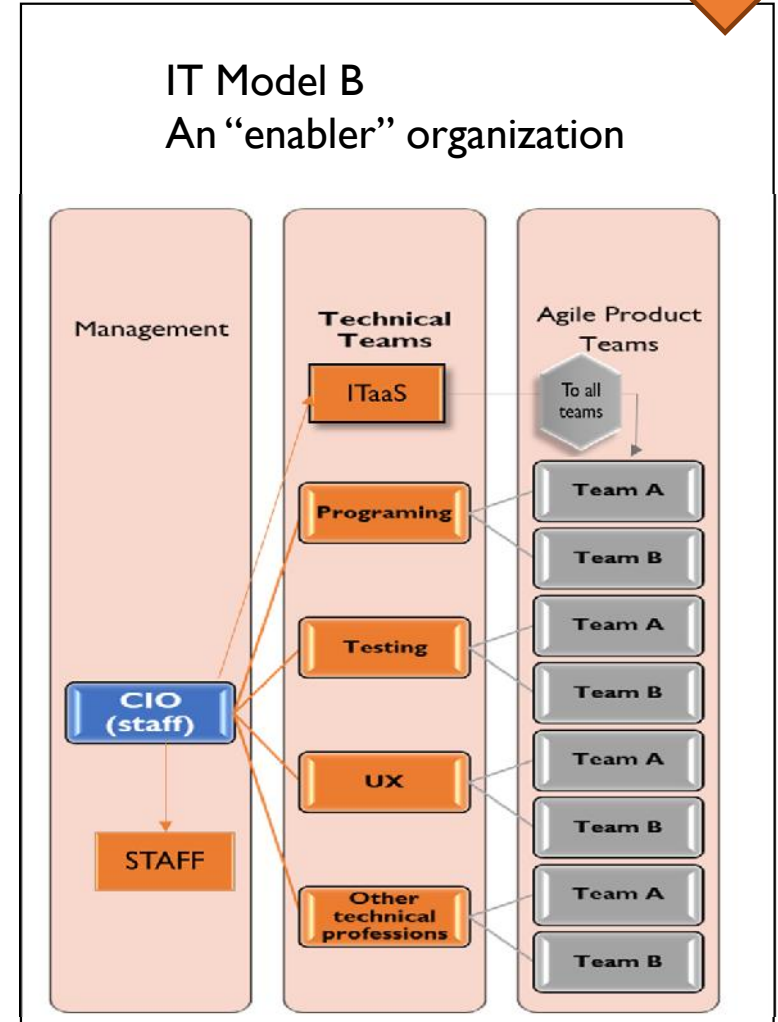




## IT Model A an “overhead” division

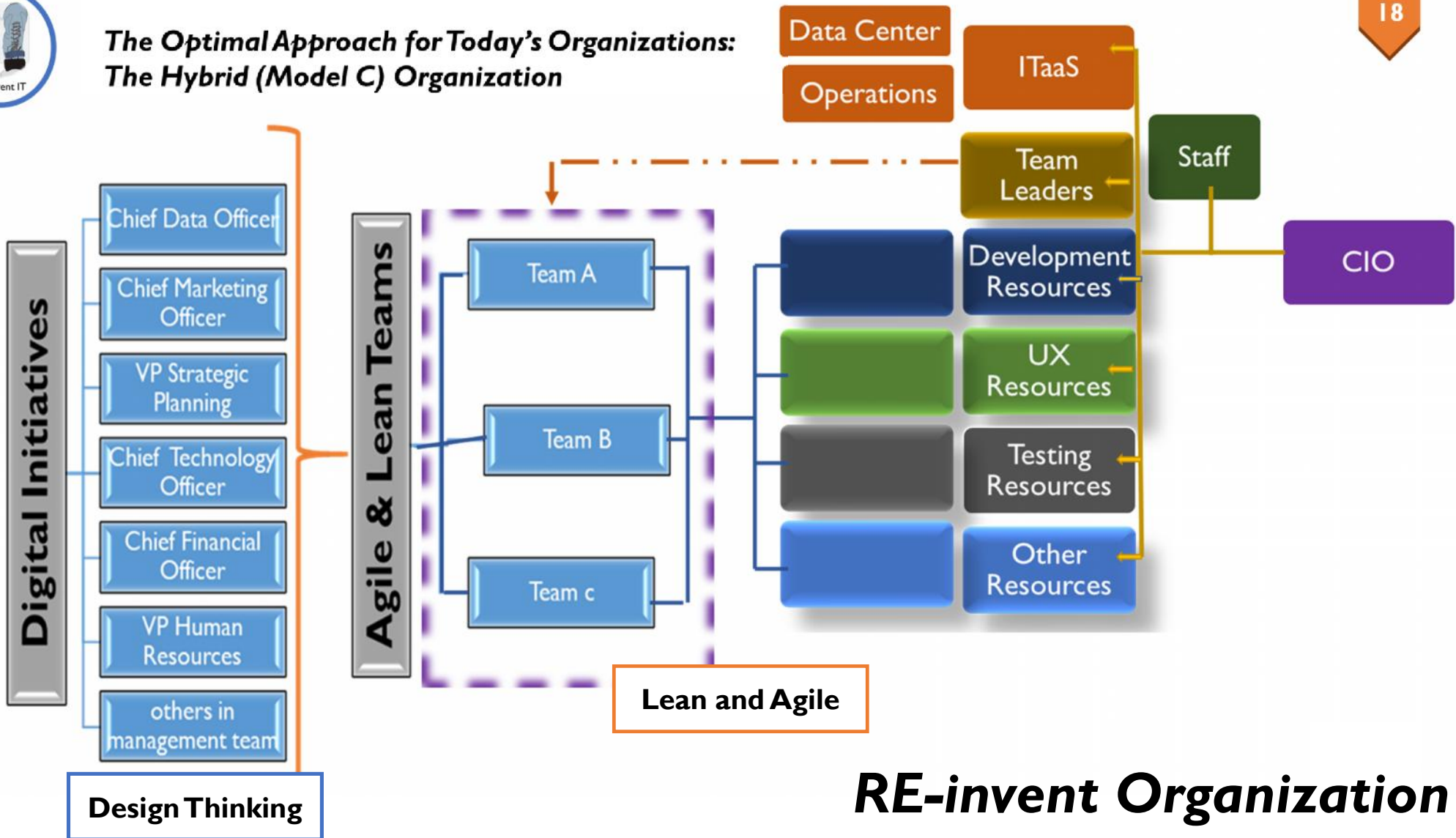


## IT Model B An “enabler” organization





### The Optimal Approach for Today's Organizations: The Hybrid (Model C) Organization



## RE-invent Organization

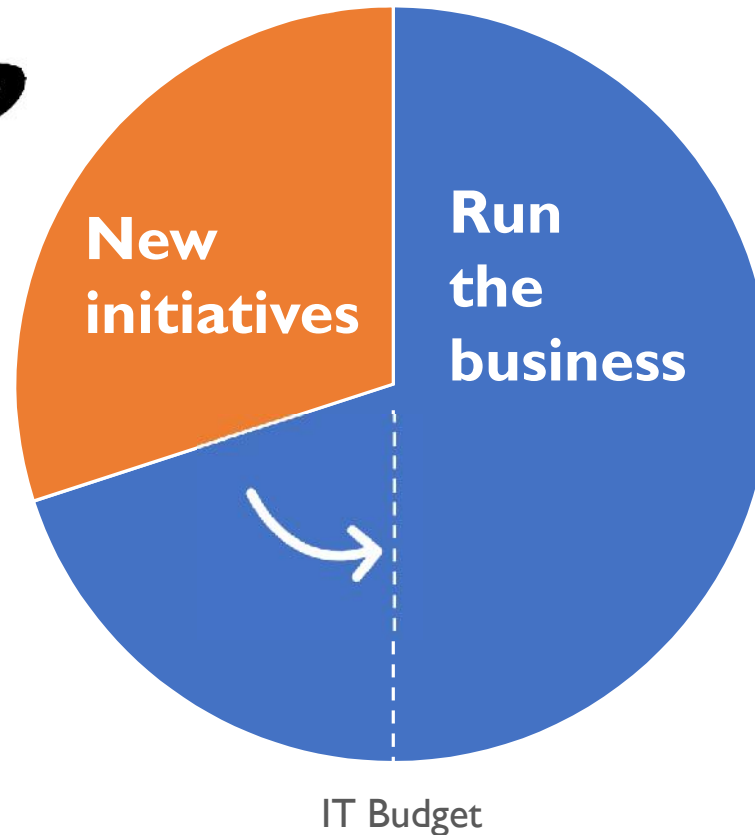


# Establish IT staff department

## Why?

The goal is to increase the share of the "New Initiatives" to be

**50%**  
of the budget



## HOW?

- by managing resources
- using cheaper technologies
- open source
- sourcing
- automating
- re- architecting legacy systems



**IN CHARGE OF**



# Personalized services just in time

COO

CFO

HR

CDO

CMO

CRO

Data Officer



Why?

They ALL need easy data access and technology tools

NOW



- A strategic plan is built in advance
- Most of the budget is allocated in advance
- Very little room for change within a year






Methodological, well-arranged IT must put the business customers in the center



# BRM – Business Relationship Manager



the client's  
foreign minister  
into IT organization

-  understands business strategy
-  mega technology trends
-  organizational risk appetite
-  customers' demands
-  budget allocation



# Office of the CIO

## OCIO



Sometimes reports  
to BRM

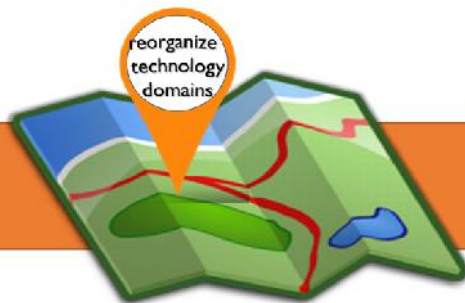
- IT budget
- IT planning
- Methodology and processes
- Demand mngt
- Project and Portfolio mngt and tools
- IT resource mngt
- IT HR and skill mngt
- Optional: QA/ HD/ GRC



 **introduction of automation tools, RPAs, robo-tools and open APIs**

Trek Name:  
**REORGANIZE TECHNOLOGY DOMAINS**







# Robotic Process Automation (RPA)

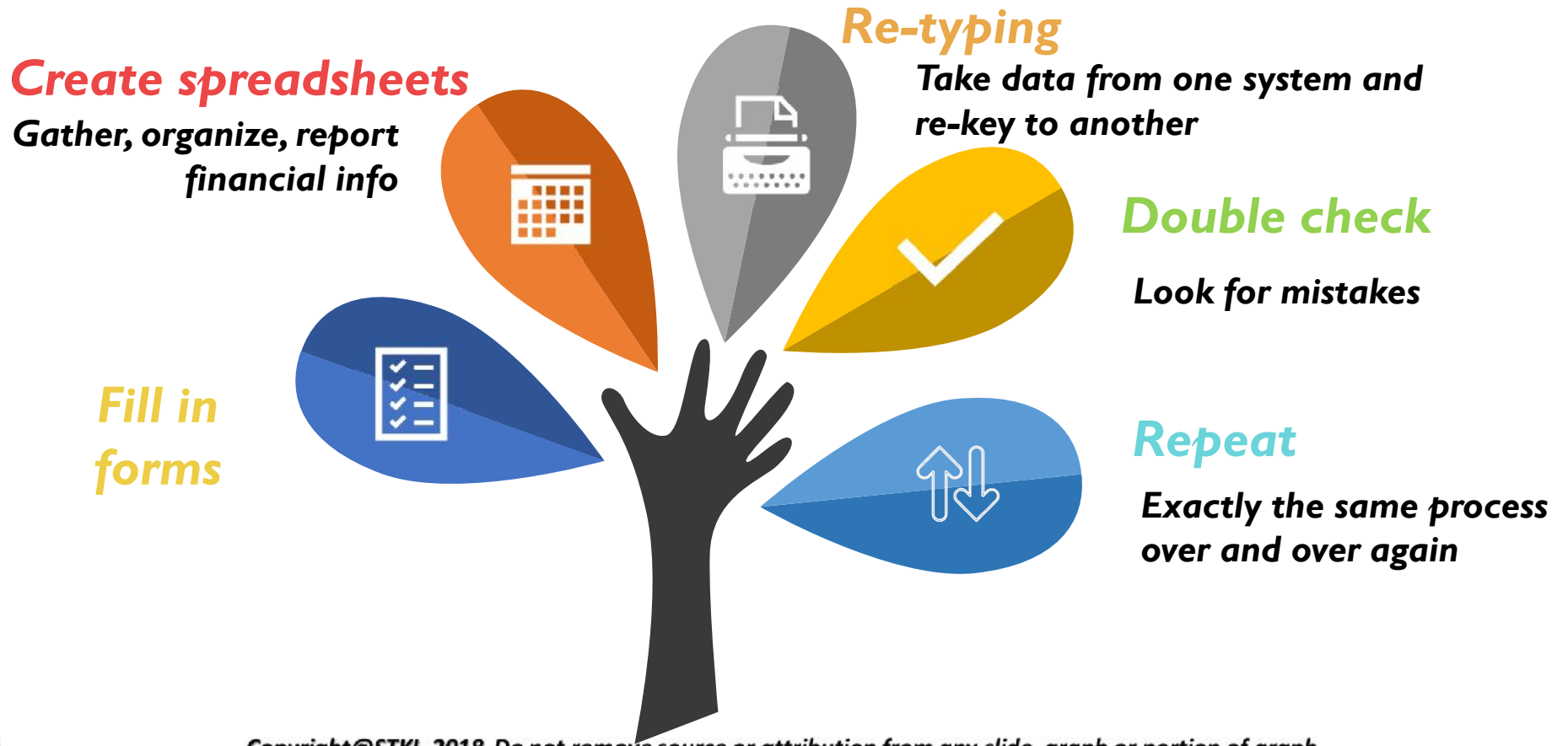
*What it is?*

**RPA** is a SW with AI & ML capabilities, that mimics the human way of doing things and can handle high-volume, repeatable tasks

**RPAs and bots will come of age in 2018 and become commonplace across service and financial departments**



# RPA – Do More with Less





# RPA – Why Now?

## Workers are different

Looking for meaningful job where they can contribute

## Time Consuming

80% of people's time is taken up by repetitive, manual tasks

## Costly

People are always the most valuable and expensive resource in the org.

## Error Prone

It is only HUMAN.

I don't do spreadsheets!



Human Talent



Robot RPA

## Task Automation

Mimics the same tasks in a similar way

## Hybris Automation

End-to-end process automation with robot-human interaction

## Automated process discovery

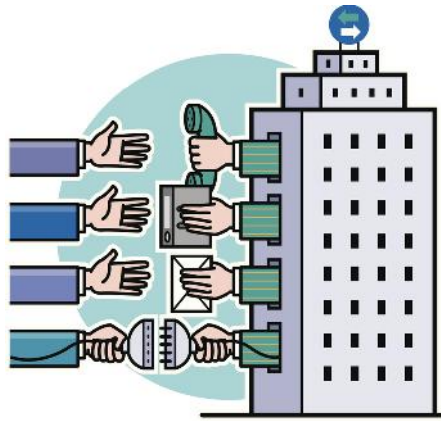
Deep learning & AI leveraging human actions

## RPA New Generation

Revolutionize Business Process Execution



# RPA is a Lifeline to the BPO



Outsourcing



Staff Augmentation



The 3<sup>rd</sup> alternative - RPA

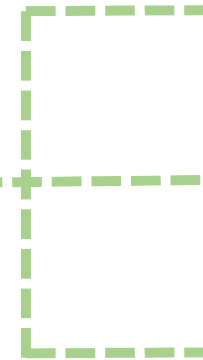
RPA, with its significant cost savings and short deployment, is presenting a 3<sup>rd</sup> alternative to outsourcing and staff augmentation



# Application Programming Interface (API)

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*What about it?*



UBER



airbnb



OpenTable®

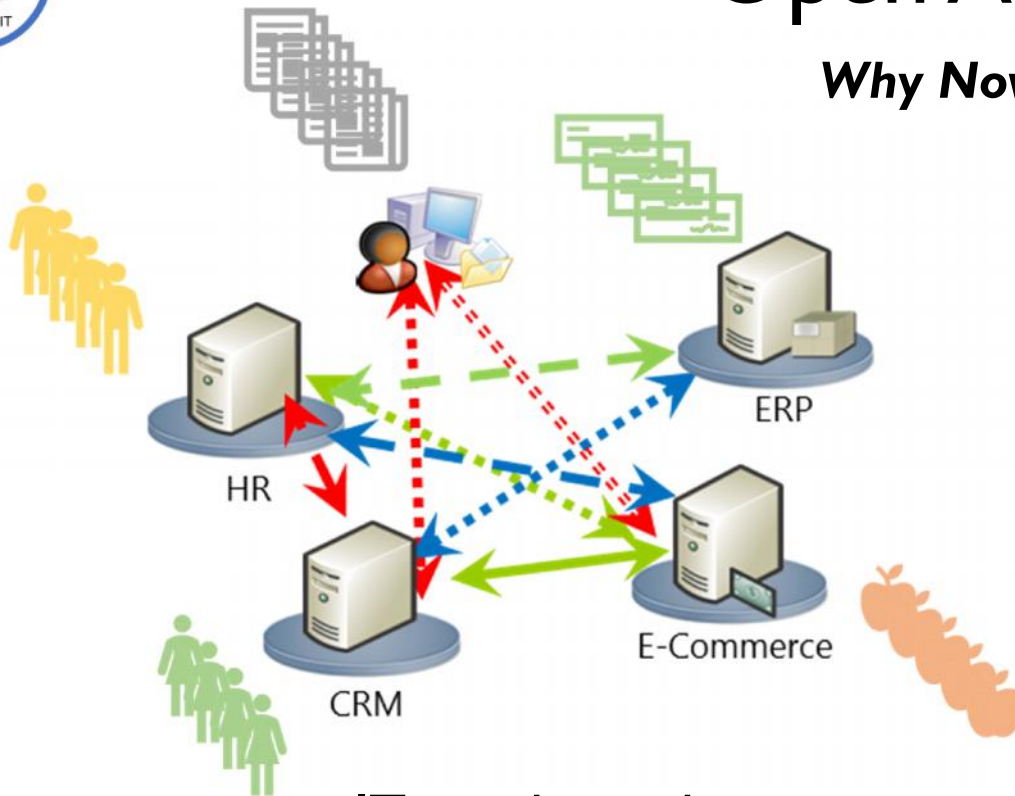
API is a programming interface that connects 2 SW programs, so that one can benefit from the other

API is a standard based simple interface that allows you to plug in to the power of bigger applications



# Open APIs

## Why Now?



IT spaghetti diagram

- 1 Majority of the interfaces are still developed for specific project's needs
- 2 Complex interdependencies between systems are proliferating
- 3 Remediating existing legacy to be API-friendly is akin to open-heart surgery

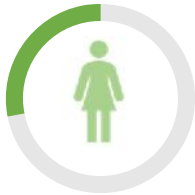
**Most of IT's budget and effort go to paying back technical debt and maintaining legacy assets**



# Strategic approach managed by C-level

new value in existing assets

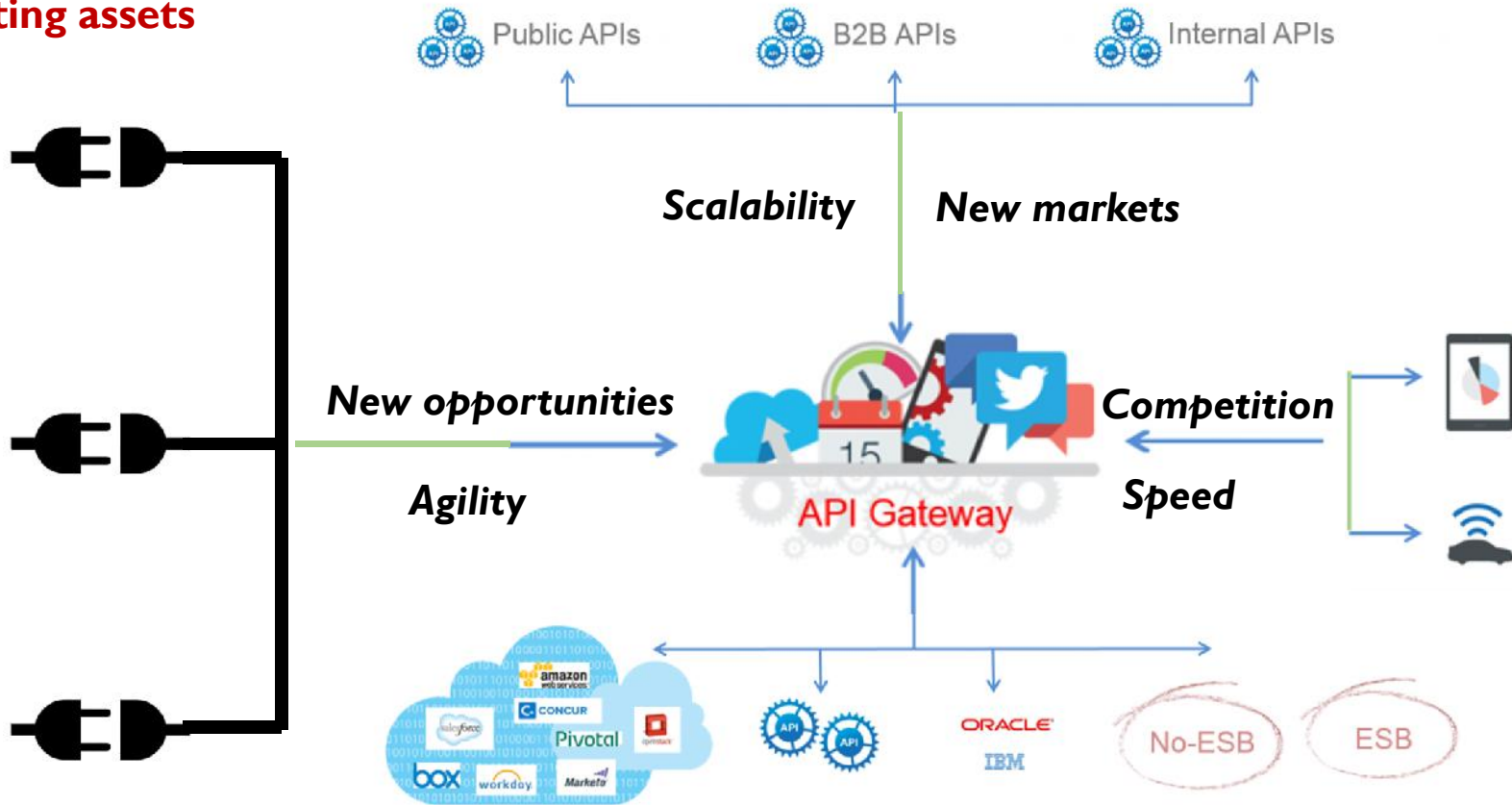
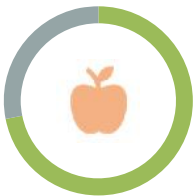
Asset reuse



Asset reuse



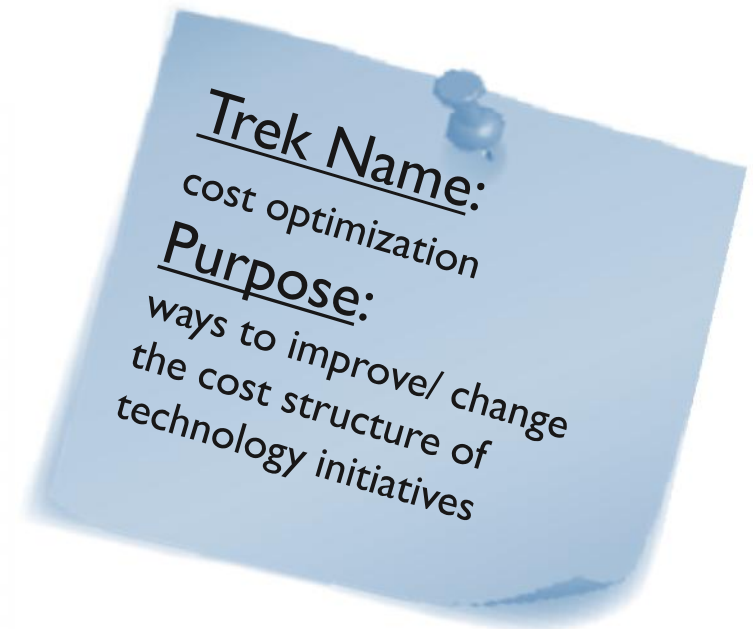
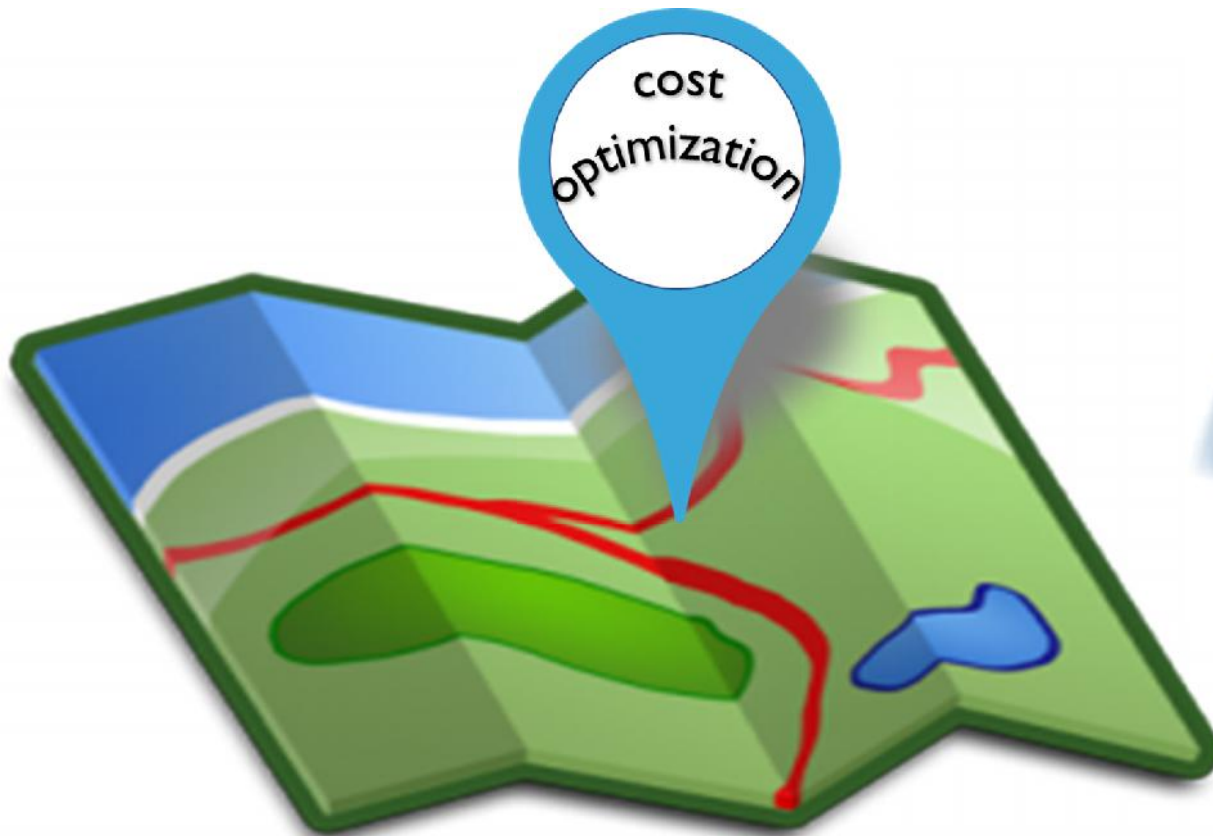
Asset reuse



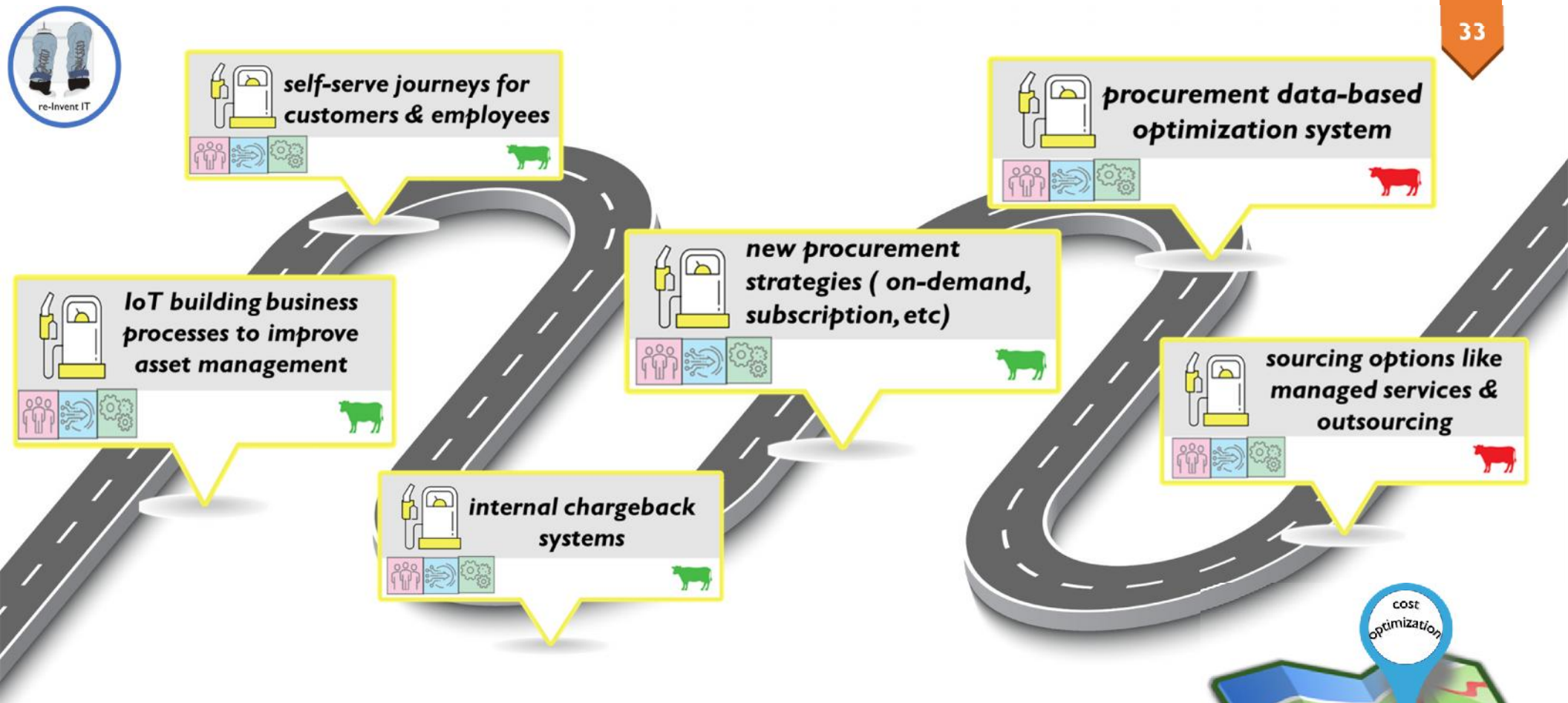
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# Re-invent IT Initiative:







Trek Name:  
**COST OPTIMIZATION**



## pre-2018

### **on-premise data center**

#### **CAPEX:**

server, network and storage infrastructure plus software licenses

#### **OPEX:**

direct costs involved with running a hardware: power, floor space, storage and IT operations, the indirect costs such as procurement, accounting personnel, IT management and operations

### **data center hosted in the cloud**

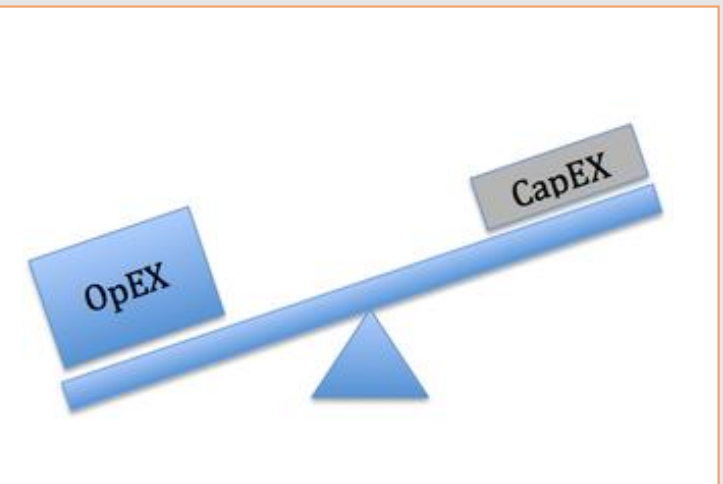
does not involve any major initial investments but also get to eliminate most of the operating expense associated with maintaining a data center. **Everything is OPEX.**

## post-2018

it's no longer as simple as

**ON PREMISE = CAPEX**  
**CLOUD = OPEX**

**OPEX** funding arrangements exist across all IT architectures from on-premise to hybrid to public cloud.





# Chargeback

Change the way in which people are consuming the IT resources

Understandable and transparent cost info - control or predict the cost involved in providing the services

Financial transparency - resources are focused on business value-driven areas

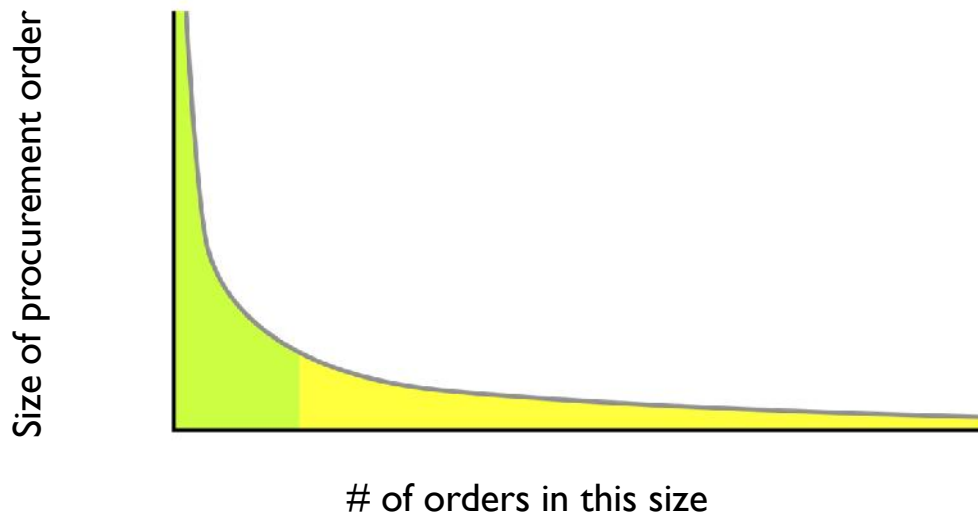




# Cost Optimization - procurement

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- Apply new technologies for procurement:
  - AI&ML for procurement trends, anomaly's, vendor management
  - Use BOTS/RPA for the long tail of procurement



to 2000\$ supplier: if  
you discount 10% we  
will pay you bill in 7  
days



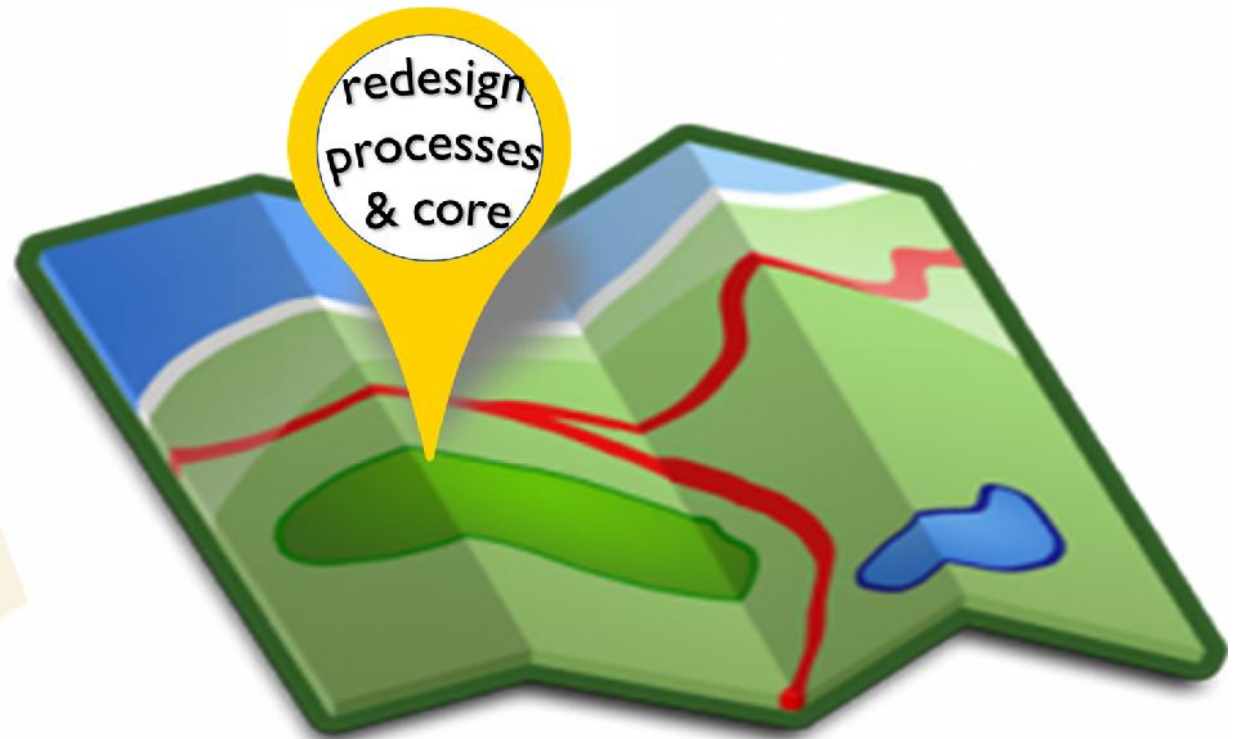
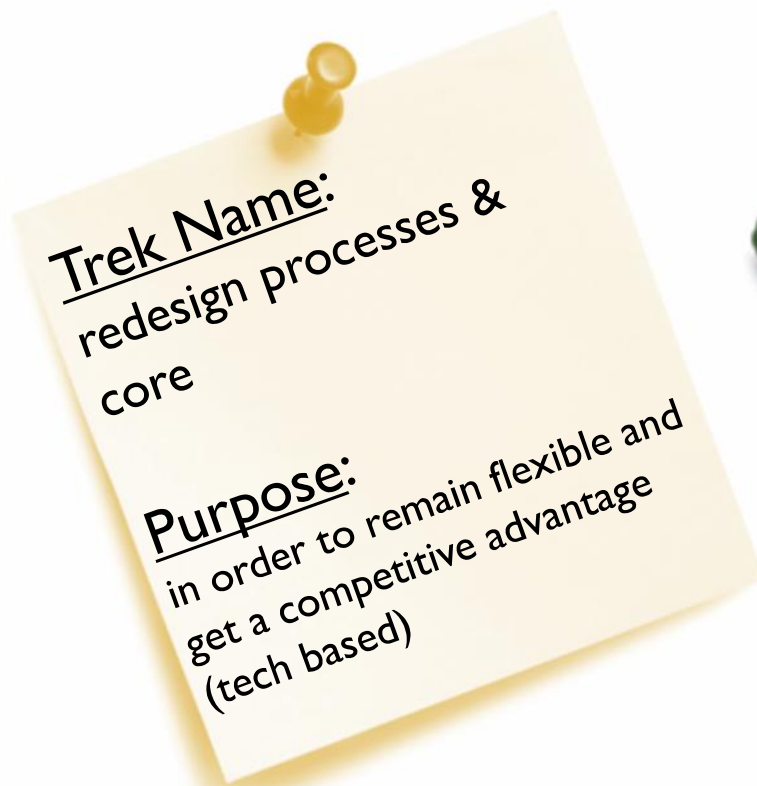
# Cost Optimization - procurement

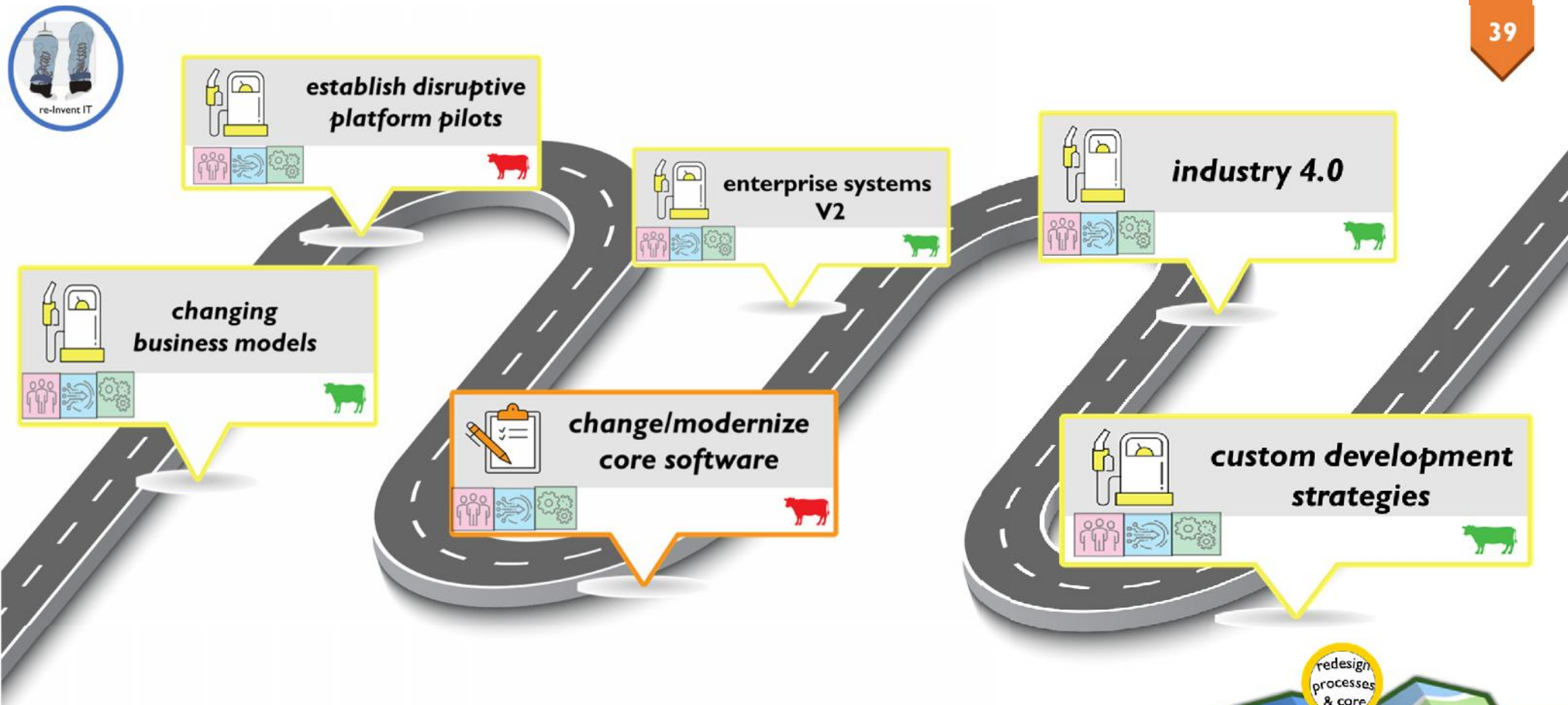
- Apply new procurement methods and principles for new needs
  - Cloud procurement & finops
  - Non-perpetual licensing (sw installed on prem)
  - Opensource related terms & contracts
  - Container based procurement (the return of the “concurrent”)





# Re-Invent IT Initiative: methodology





Trek name:

# REDESIGN PROCESSES & CORE



if the system is not upgraded it falls further and further behind and technical debt increases.

**TECHNICAL DEBT:**  
 Amount "not spent" by organizations on enterprise systems that could have been spent on other systems.



ard  
 igham  
 he

as with any debt, not "paying it back" means allocating most the budget to interest (system maintenance), leaving little for new projects.

exceedingly difficult to pay the technical debt.

**BUSINESS LEADERS**  
 want new features but they do not want to spend the time, money, and effort for: testing, rewriting procedures, retraining users plus the risk of disruption at go-live.





# Legacy platforms: when do I stop?

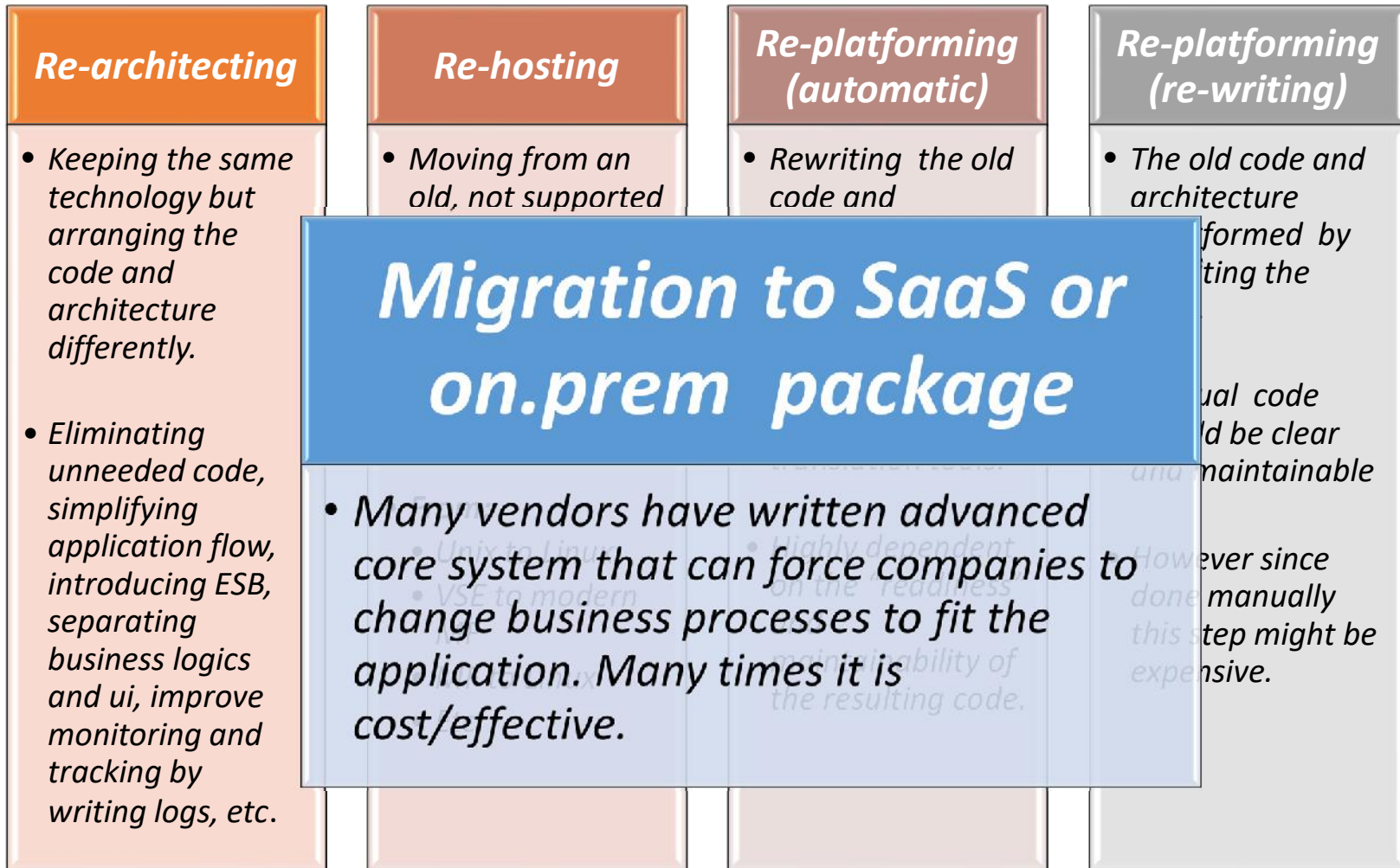
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Last longer than anyone expected but :

1. **New technology** arrives (immature but gaining momentum)
2. Legacy vendors **raise prices**
3. **Shortage** in new\young personnel
4. **Less support from 3rd parties** (ie – security)
5. Important **functionality\standards missing**
6. Availability / performance / unresolved issues

***The slope to oblivion:***







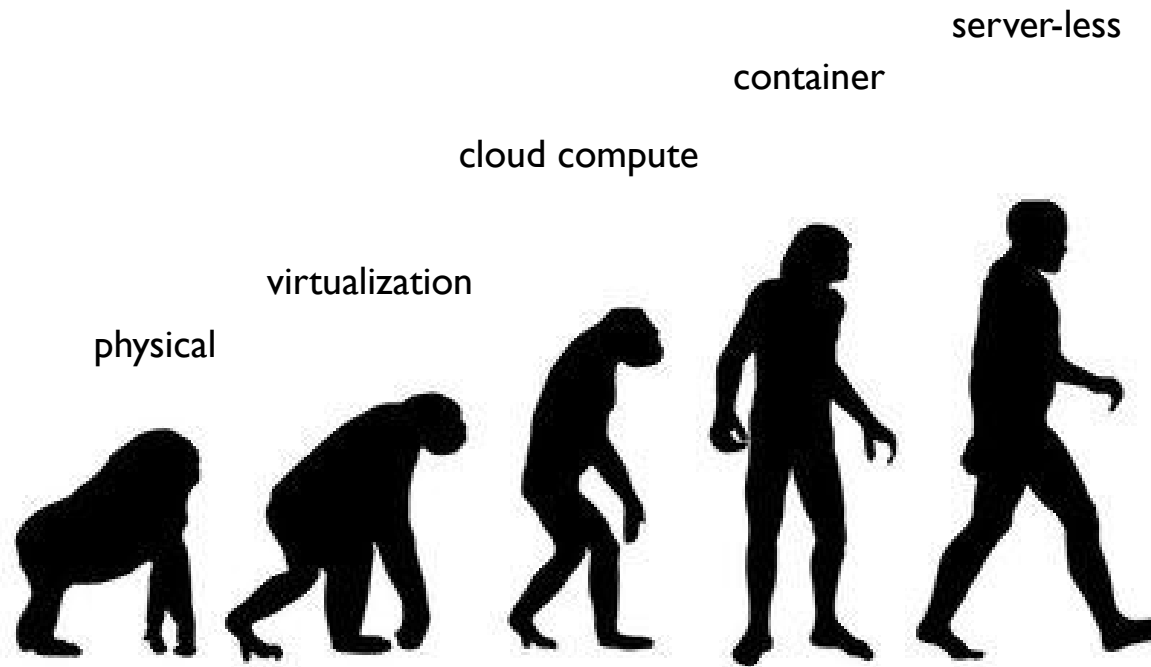
Q:“what is application modernization?”



A:“taking monolithic application running on physical\virtual server on prem\ in cloud and moving it to microservices \ containers\ serverless”



# The evolution of running code

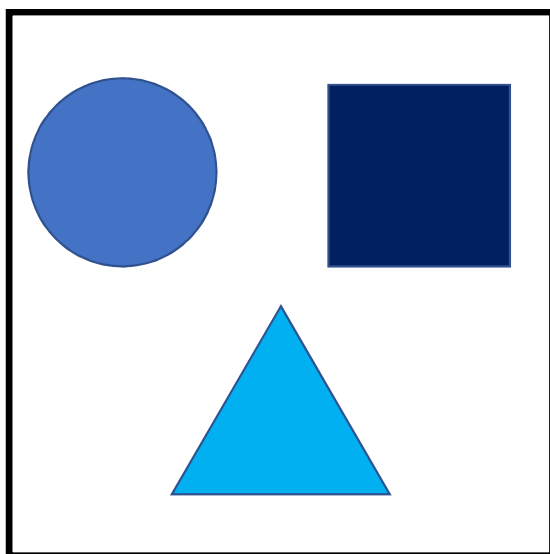


source: datree.io

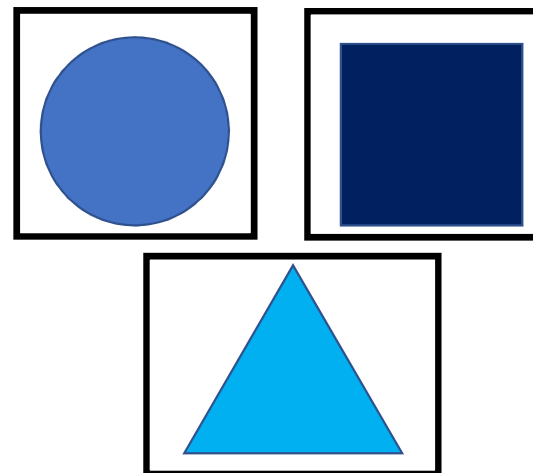


# Microservices: the cloud native architecture

Monolith

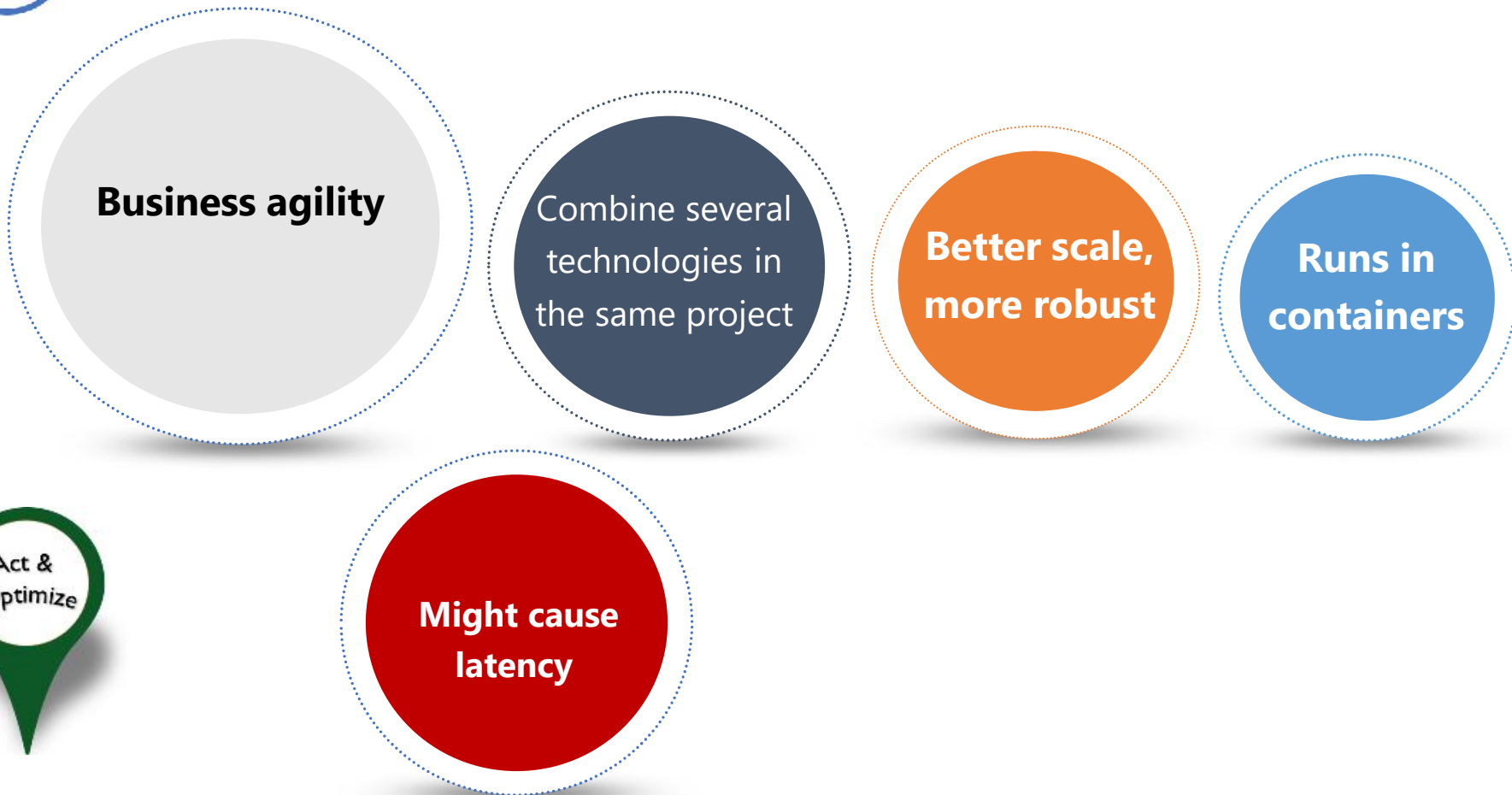


Microservices





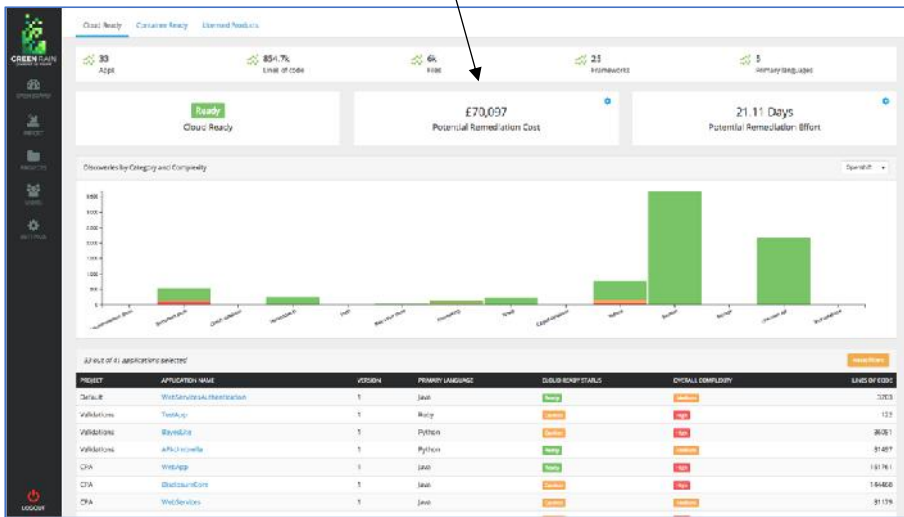
# Microservice architecture



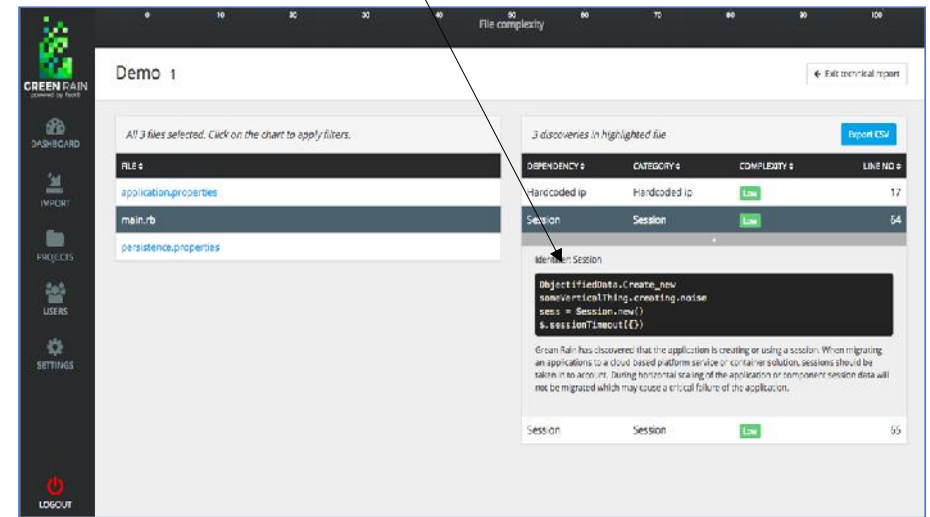


# Specialized cloud application migration tools

Cost estimation



Code to be modified



Source: fedr8



Develop now in microservices & containers (opensource, devops, agile, cloud, serverless will follow)

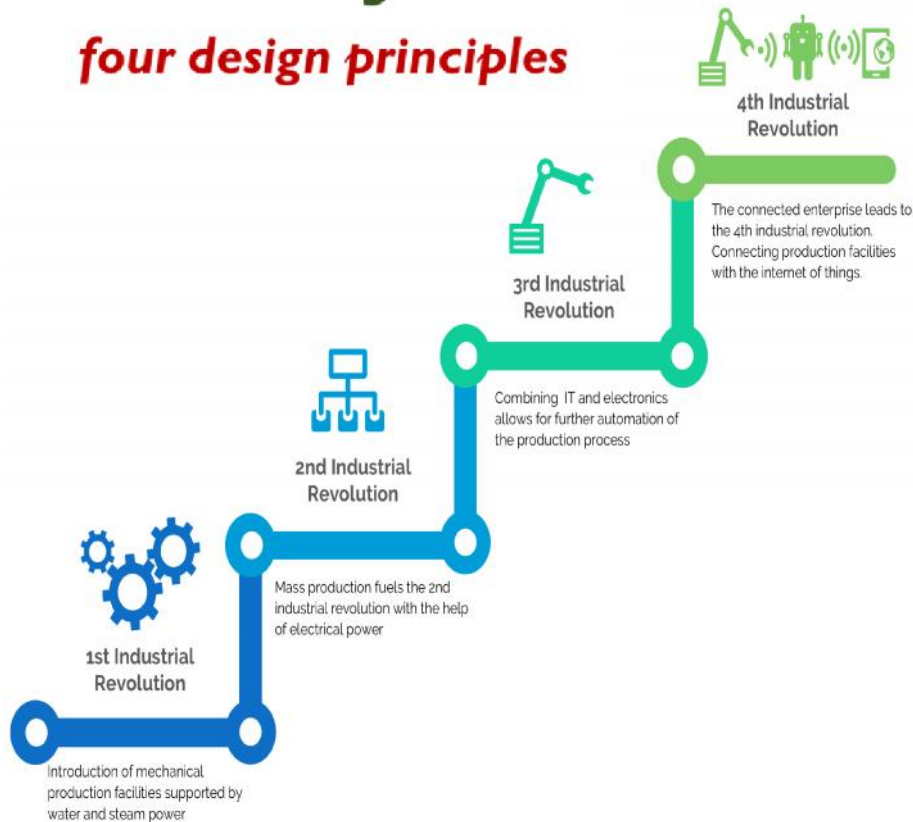






# Industry 4.0

## four design principles



**1. Interoperability:** The ability of machines, devices, sensors, and people to **connect and communicate with each other** via the Internet of Things (IoT) or the Internet of People (IoP). Adding IoT & edge computing will further automate the process to a large extent

**2. Information transparency:** The ability of information systems to **create a virtual copy of the physical world** by enriching digital plant models with sensor data. This requires the aggregation of raw sensor data to higher-value context information.

**3. Technical assistance:**

- a. the ability of assistance systems to support humans by **aggregating and visualizing information comprehensibly for making informed decisions** and solving urgent problems on short notice.
- b. the ability of cyber physical systems to physically support humans by **conducting a range of tasks that are unpleasant, too exhausting, or unsafe for their human co-workers.**

**4. Decentralized decisions:** The ability of cyber **physical systems to make decisions on their own** and to perform their tasks as autonomously as possible. Only in the case of exceptions, interferences, or conflicting goals, are tasks delegated to a higher level.



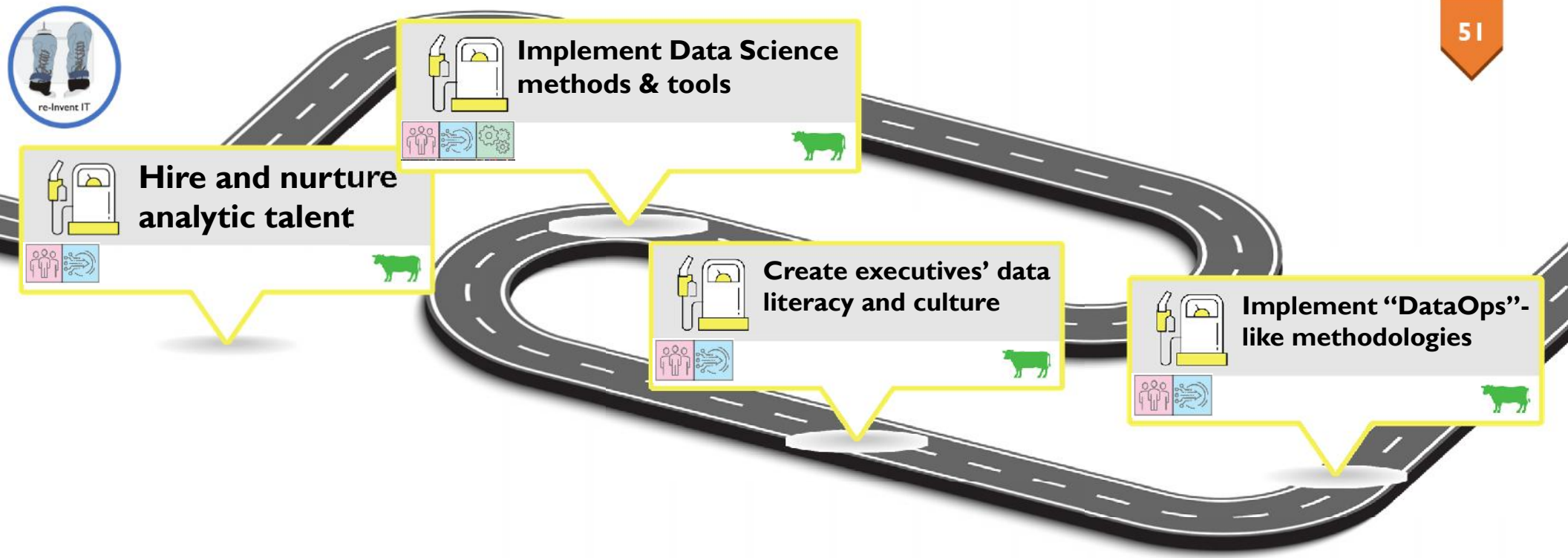
# Re-Invent IT Initiative: methodology

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Trek Name:  
Acting on Insights

Purpose:  
Help the organization base its actions on insights



Trek name:  
**Acting on insights**

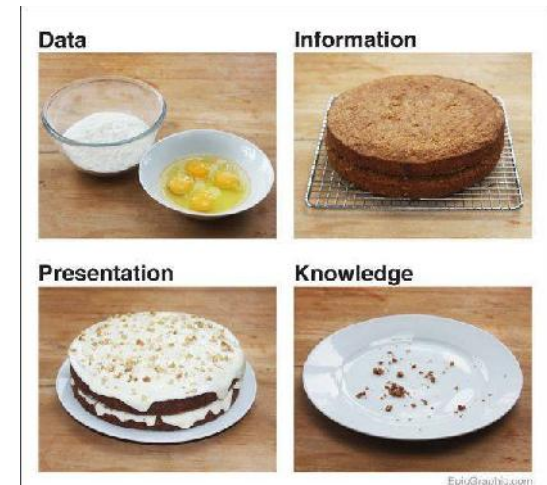
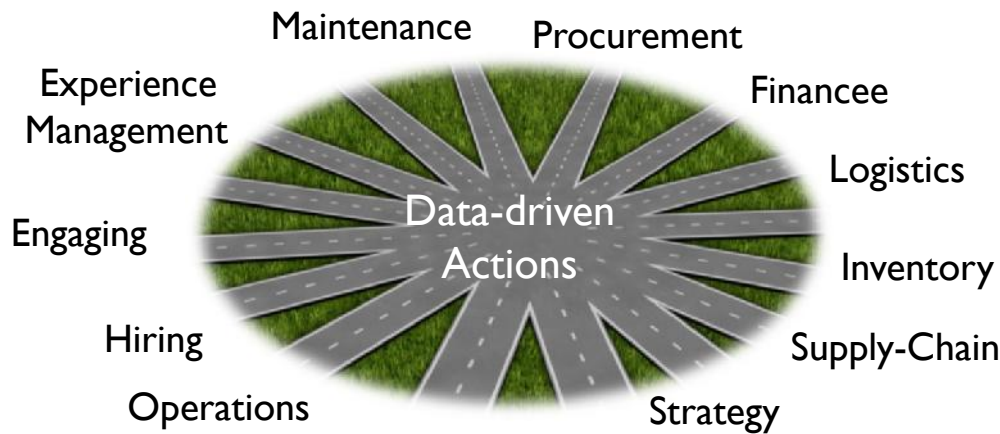




# Actions based on Insights

*(The last mile of the data-driven imitative)*

- a. Establish data driven decision processes
- b. Turn decisions into actions
- c. Deal with the cultural aspects



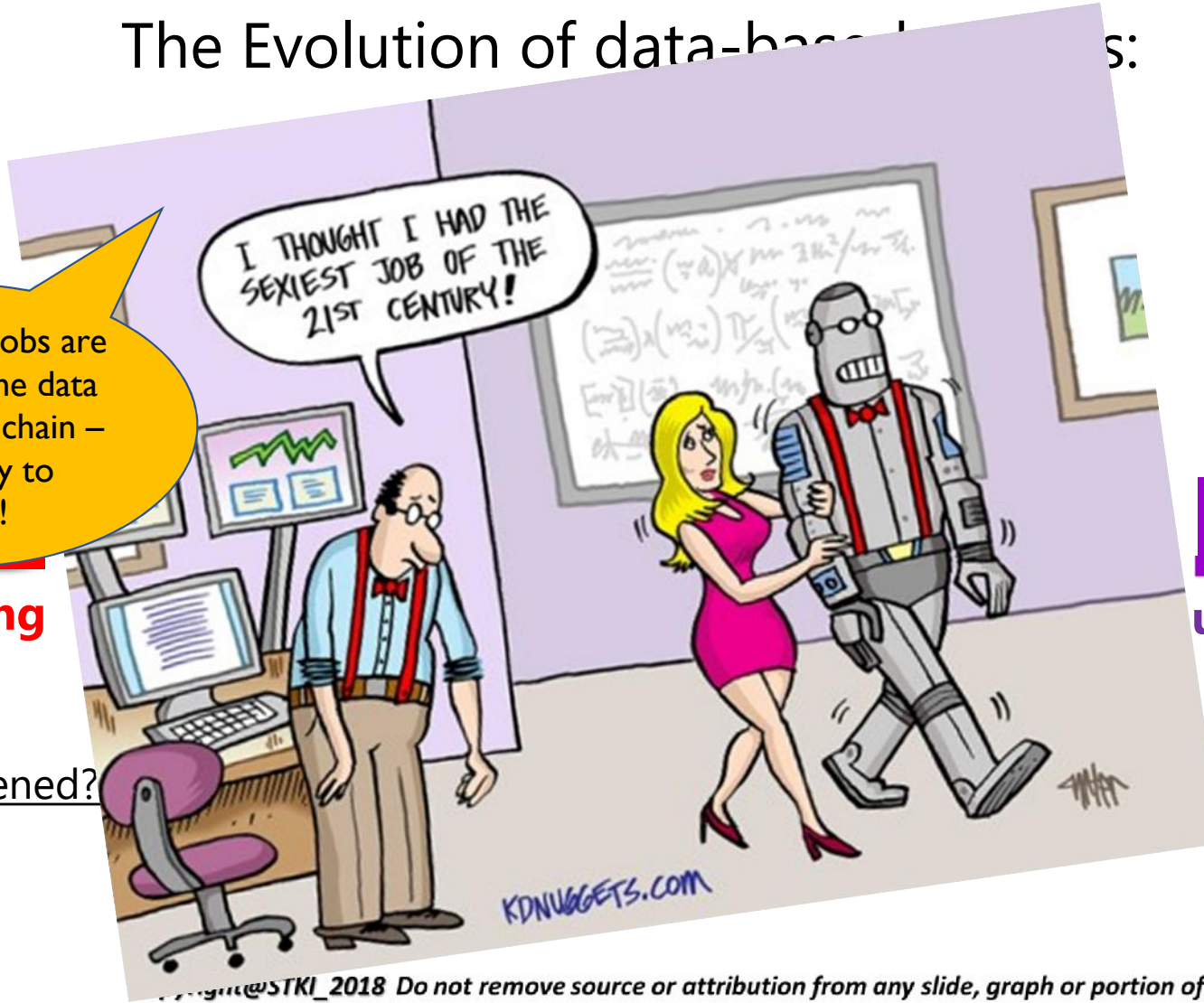


# The Evolution of data-based jobs:

Data science jobs are climbing up the data driven supply chain – All the way to actions!

## Reporting

“What happened?”

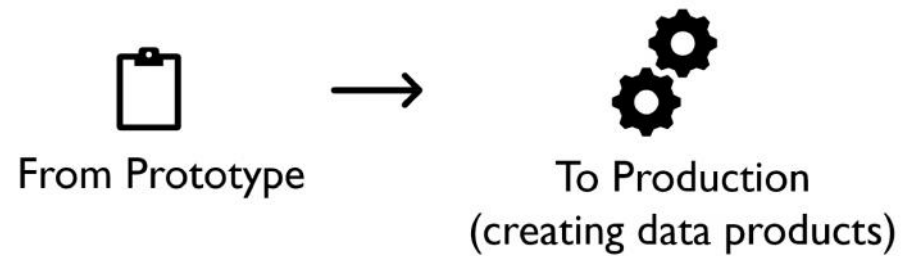



## 5 Autonomous Actions

“Do what’s best automatically”

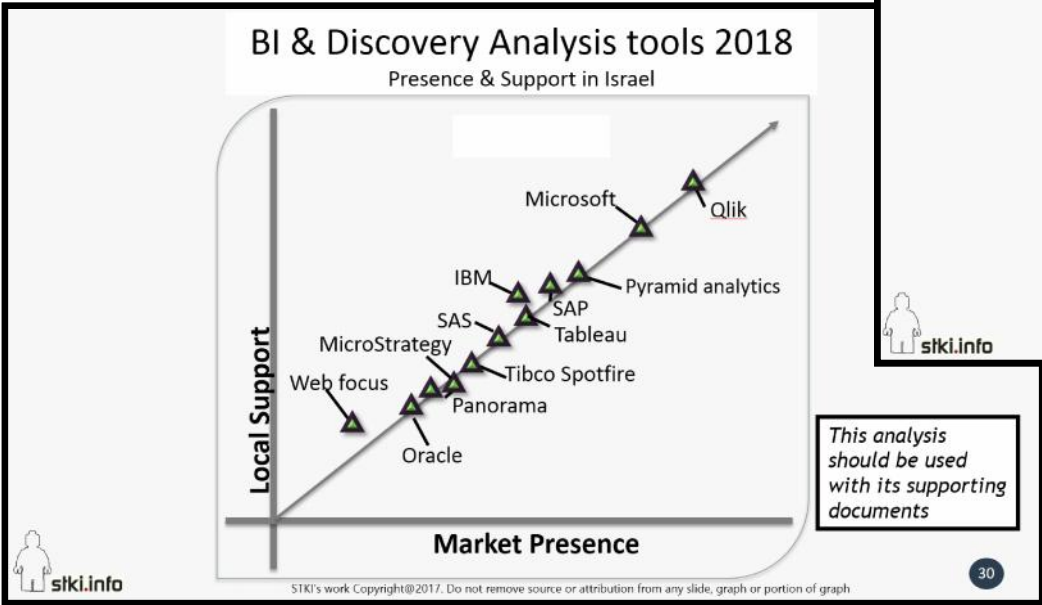
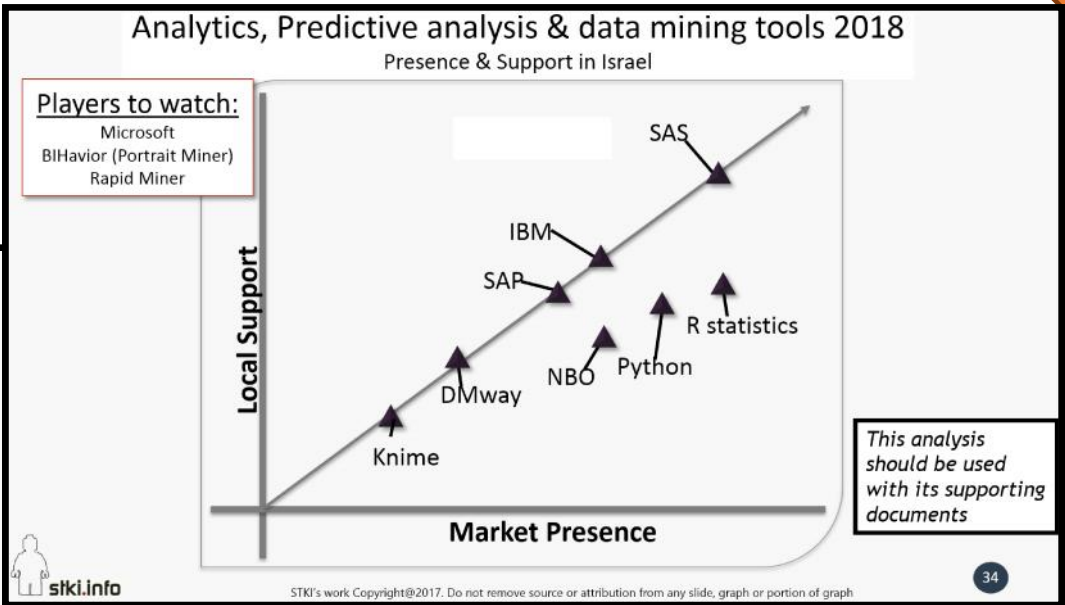


# Machine Learning Engineer




 ML Engineers average salary: 150K\$

## Meet Data Scientist's younger (and cooler) brother:




# Data-based Actions tools and providers





re-Invent IT



Cloud

# GOOD LUCK.

HAVE FUN! MAKE CHANGE HAPPEN!

Act 1	EXPLORE
Act 2	IMAGINE
Act 3	ATTEMPT

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