



## Cyber Threat Intelligence & Incident Response

29 November 2019

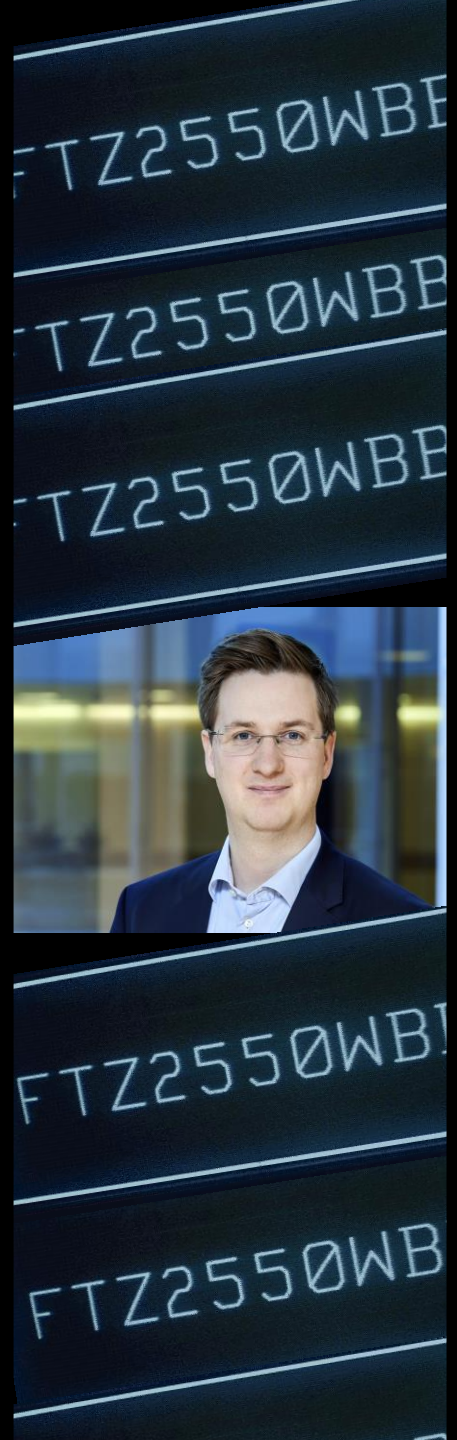
# Thomas Thomassen

Senior Manager, Threat Intelligence Specialist

PART OF DELOITTE'S GLOBAL CYBER THREAT  
INTELLIGENCE TEAM & DELOITTE DK'S IR TEAM

FORMER ANALYST AT DANISH DEFENCE. MSC THEORY AND  
HISTORY OF INTERNATIONAL RELATIONS

I LOVE THE HUNT!







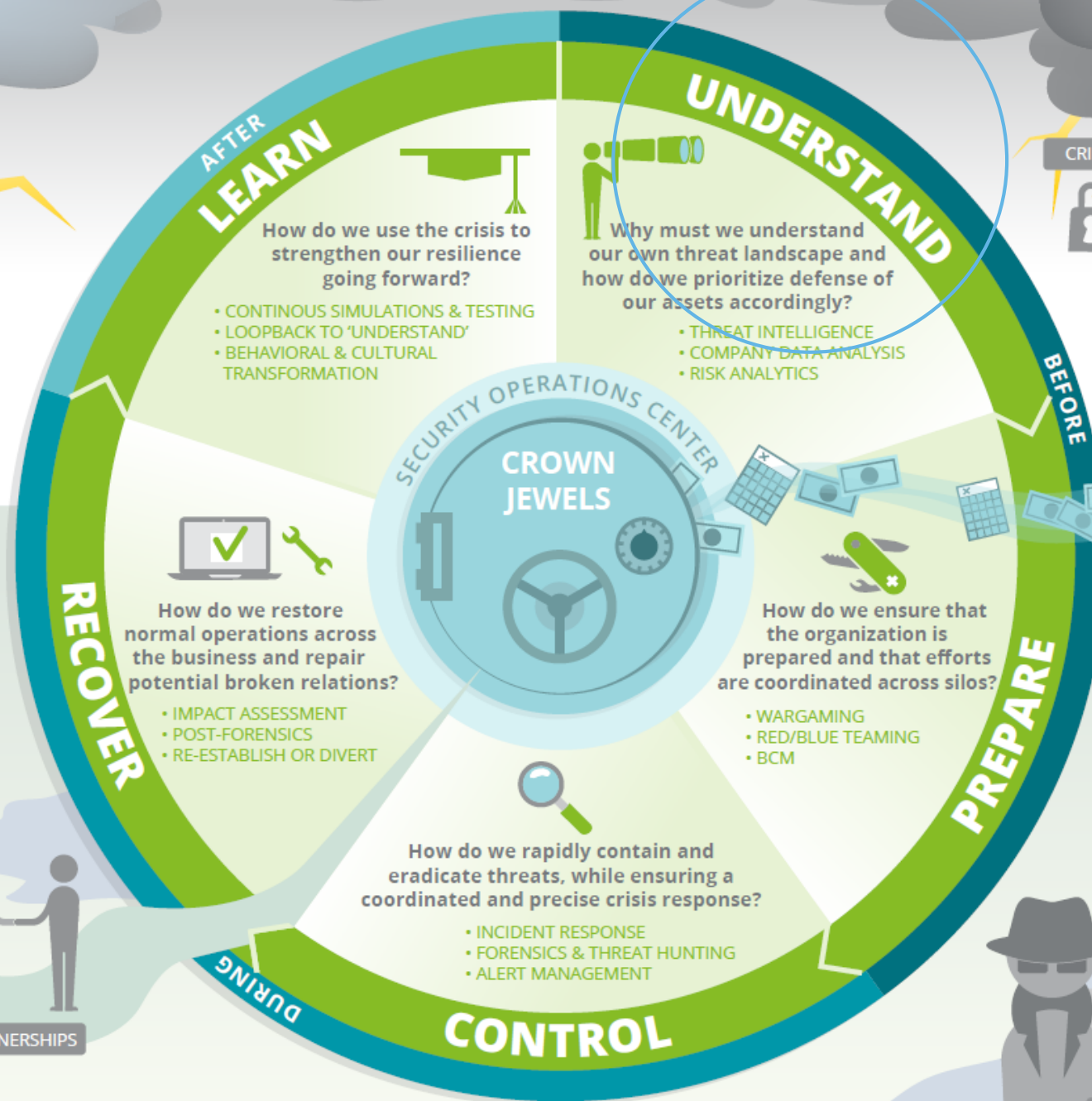
# Agenda

1. Our Worldview – THE BIG PICTURE
2. What is Threat Intelligence?
3. Intelligence-driven Incident Response



# RISKY BUSINESS

# THREATS



REGULATORY

REPUTATION

COMPETITORS

ADVISORS

FINANCIAL

PARTNERSHIPS

CRIME

HACKTIVISM

TERRORISM

INSIDERS

ACCIDENTS

NATION STATES

# What is? Threat Intelligence

## Unwrapping 'Understand'

### Challenge

New threats emerge, and it is challenging for most organizations to proactively scan, assess and understand the many issues and dynamic risks that impact their business. It is also hard to objectively identify own weaknesses, and thereby define and operationalize own risk appetite.

Organizations need to increase their situational awareness – from yearly transitioning to daily

### Why is it needed

- Reduce time to detect and respond to cyber incidents by massively expanding monitoring coverage of IT infrastructure
- Focus on endpoint monitoring and response to increase radius of action
- Fully adopt real-time analytics in monitoring
- Obtain deeper visibility in partner compliance (e.g. via monitoring)

### Understand your business

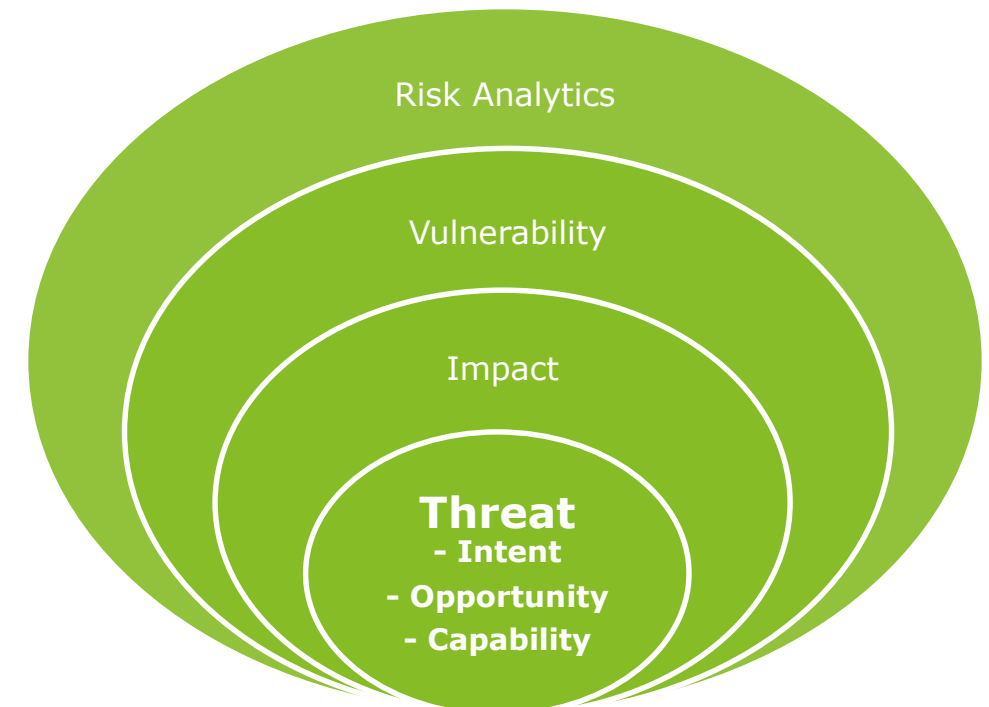
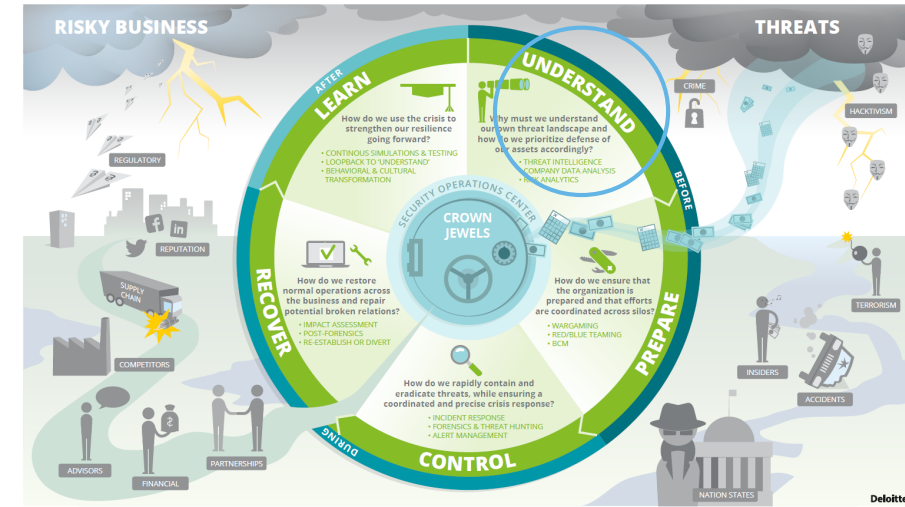
- **Crown jewels**

### Core components

- Threat Intelligence
- Risk Analytics
- Business impact analysis (Crown Jewels)
- Vulnerability assessments
- Actualized Risk appetite reporting

### Threat Landscape

- Who might attack?
- What are they after?
- What tactics will they use?



# What is Threat Intelligence?

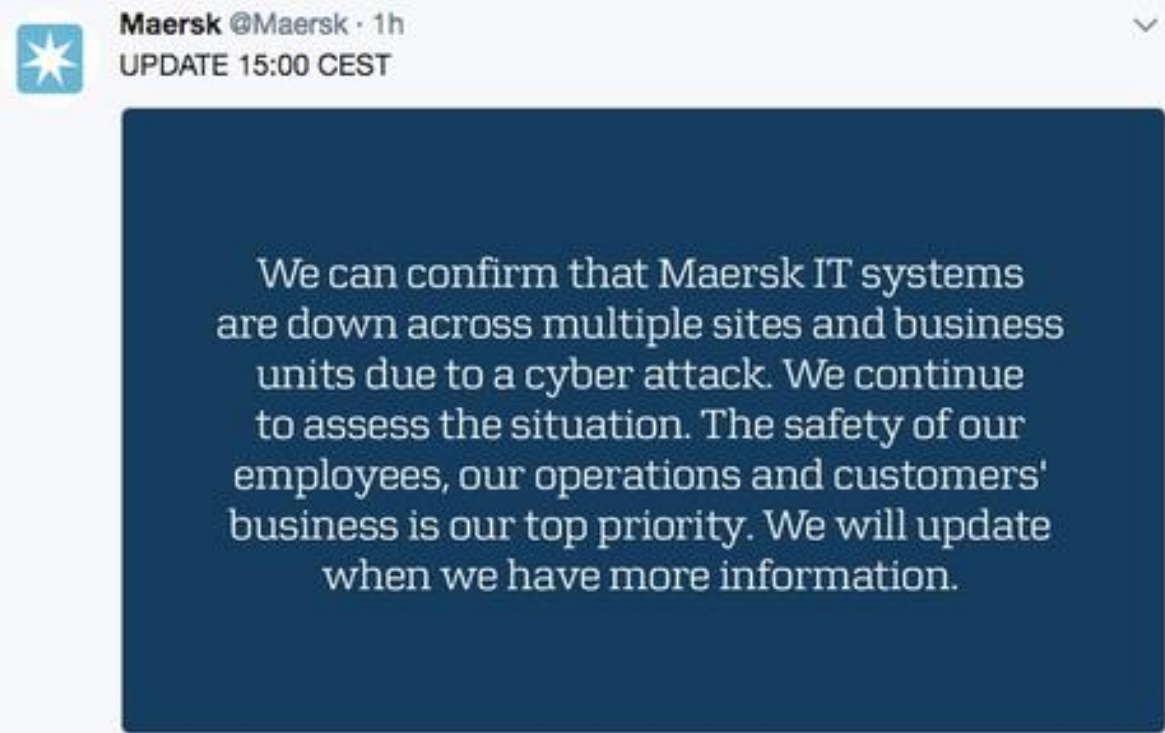
*Threat intelligence is **actionable** knowledge and insight on adversaries and their malicious activities enabling defenders and their organizations to **reduce risks** through **better security decision-making**.*

(From Sergio Caltagirone)



- Who adversaries are
- What adversaries use
- Where adversaries target
- When adversaries act
- Why adversaries attack
- How adversaries operate

*Threat intelligence is **not** a feed of observables  
such as **IP addresses, domains or hashes***



activity.

nn. On February 26, 2014, JSSD Intelligence Officer A texted CHAI, "The French are asking Little GU [Company I's manager] to inspect the record: ns24.dnsdojo.com. Does it concern you guys?" CHAI responded, "I'll ask."

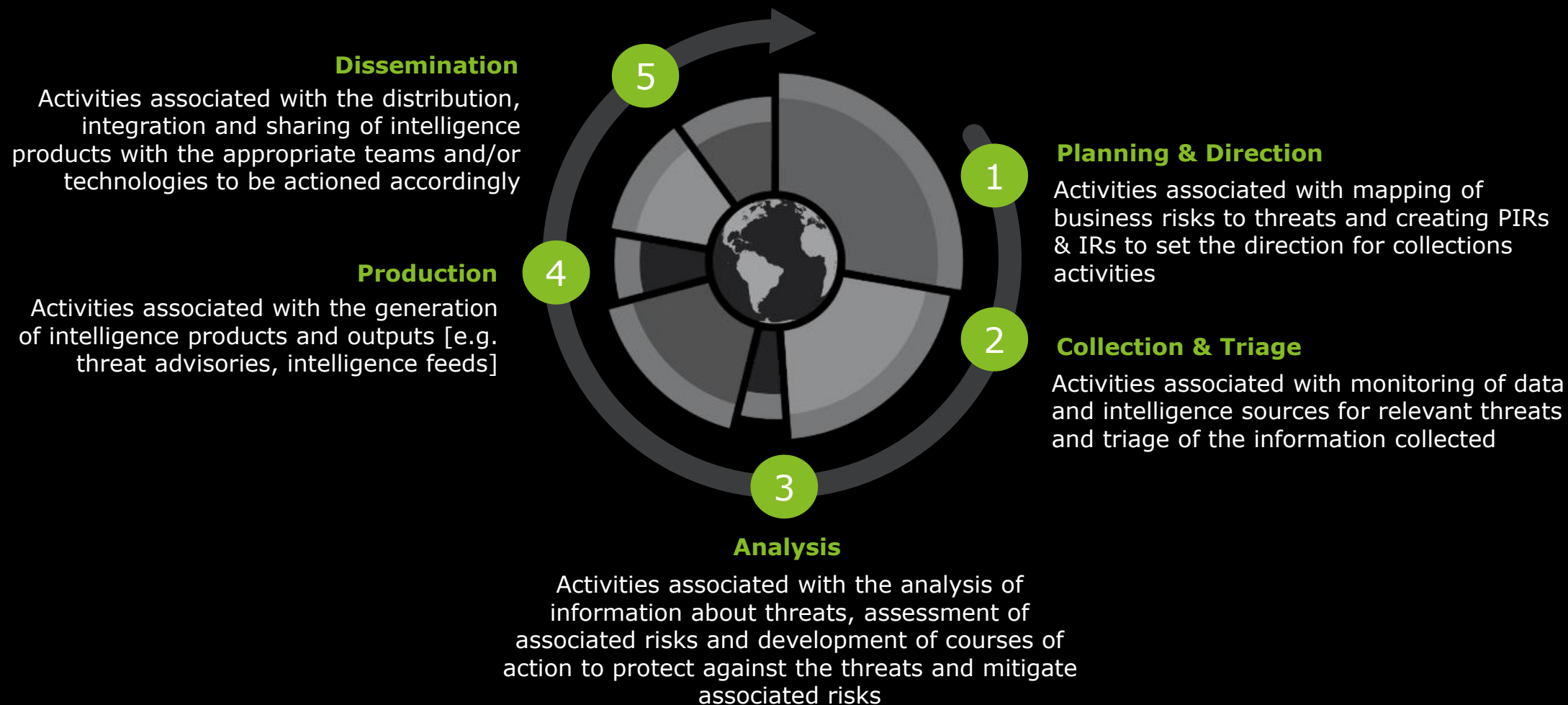
oo. Several hours after that text exchange, a member of the conspiracy logged into DNS ACCOUNT-3, an account controlled by LIU, and deleted the domain ns24.dnsdojo.com.





# GENESIS: How is Cyber Threat Intelligence Created?

## Threat Intelligence Production Lifecycle



**Deloitte.**

Threat Notification

French s  
malware

**Deloitte.**

Threat Notification

Widespread ext  
worldwide

Campaign

Issue date: 02 November 2018

**Deloitte.**

Threat Report

APT Target  
President

**Deloitte.**

Threat Report

Update on Threat Actor Group - Temp.PERISCOPE

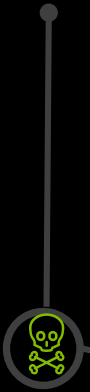
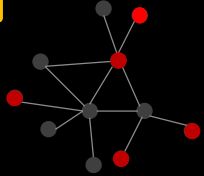
Malware

Issue date: 05 November 2018 | TLP: Amber | Industry: E&R; LSHC; PS; | Region: All; | Serial: A-TR-EN-01-7968

# Defining Intelligence Requirements and Risks

Commander's Critical Information Requirements		
PIR	SIR	EEI
Which adverseries target naval industry?	Which TTPs are leveraged by Temp.PERISCOPE against targets?	How does the actor perform reconnaissance?
		Which techniques are used in spear phishing emails?
		Which implants are utilized by the actors?
		Which tactics does the actor use post-compromise?
		Which NBI is current depoyed by the actor?





The hunt begins...

```
GET /templaterv.hta HTTP/1.1
Accept: */*
Accept-Encoding: gzip, deflate
User-Agent: Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 6.1;
Trident/4.0; SLCC2; .NET CLR 2.0.50727; .NET CLR 3.5.30729; .NET CLR
3.0.30729; Media Center PC 6.0; .NET4.0C; .NET4.0E)
Host: www.thyssenkrupp-marinesystems.org
Connection: Keep-Alive
```





# Deloitte.





From: smith.parry@chemscalere.com  
To: [REDACTED]@[REDACTED].edu  
Subject: Ocean Physical Story  
Dear Andrey,  
I am writing a cover story for CEN, the magazine of the American Chemical Society, about ocean physical and am hoping you will have time for an interview. With the story, we're hoping to really dig into the science of how the life cycle of ocean physical, as well as the rationale and mechanism for the various treatments in development (and other promising areas that might be explored).  
On a separate note, we're planning to cover this side of the problem in a separate piece, so if that's an area you'd like to talk about, I'm all ears.  
  
Please feel free to email with your answers to any questions about the story or our publication.  
  
Thanks in advance for your help  
Kind regards,  
Smith.Parry  
Senior Editor, C

"[Green] pid=%d tid=%d modulePath=%s|"

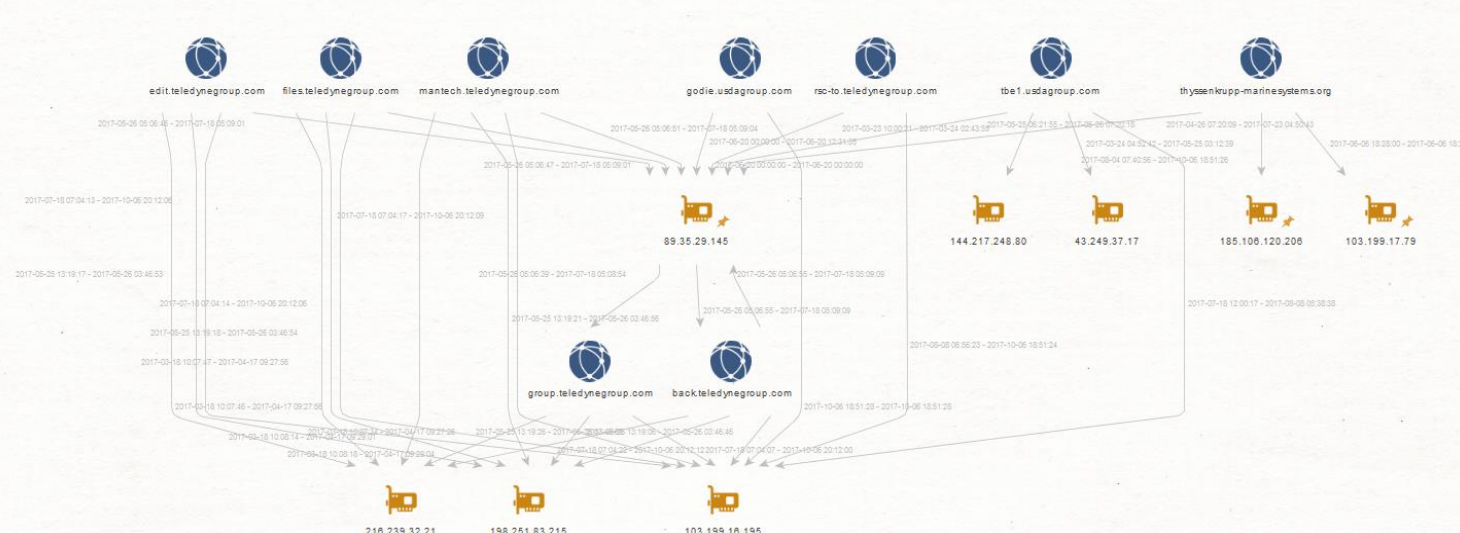
Interesting... we will get back to this

7B 5C 72 74 66 31 5C 61 6E 73 69 5C 61 6E 73 69	{\rtf1\ansi\ansi
63 70 67 31 32 35 32 5C 75 63 31 5C 64 65 66 66	cpg1252\uc1\deff
30 5C 73 74 73 68 66 64 62 63 68 30 5C 73 74 73	0\stshfdbch0\sts
33 38 32 45 37 34 30 30 34 33 33 41 35 43 34 31	382E7400433A5C41
36 31 36 31 35 43 37 34 36 44 37 30 35 43 33 38	61615C746D705C38
32 45 37 34 30 30 30 30 30 30 30 33 30 30 32 39	2E74000000030029
34 34 36 31 37 34 36 31 35 43 34 43 36 46 36 33	446174615C4C6F63
36 31 36 43 35 43 35 34 36 35 36 44 37 30 35 43	616C5C54656D705C
33 38 32 45 37 34 30 30 30 30 31 36 30 35 30 30	382E740000160500

# CHINA



Map © The Economist



The screenshot shows a Microsoft Word document with the following content:

**Applied Research Laboratory Unmanned Aerial Systems Team**

**Field Trial Log**

**21 September 2017**

**Torpedo Recovery Experiment**

**Objectives:** Deploy an object with similar size and coloring of a Navy torpedo in the ocean and evaluate the ability of cameras mounted on a series of unmanned aerial systems (UAS) to detect the object. Determine how far away from the base station the UAS can be controlled and how far away from the object the cameras can identify it.

**Location:** Maunaulua Bay and Maunaulua Bay Beach Park.

**Participants:** Ted Ralston (lead); Josh Levy, David Harris (pilots); Noah Hafner, Margo Edwards, LCDR Chris Keithley, Chris Bretz, Jeff Brown, **OTHERS** (observers); Margee Ralston (outrigger canoe deployment team).

The document is displayed in a Word window with the title bar 'c7fa6f27ec44142ae591f2dd7c63d046431945f03c87dbed88d79f55180a46d - Microsoft Word'. The ribbon shows 'File', 'Home', 'Insert', 'Page Layout', 'References', 'Mailings', 'Review', and 'View'. The 'View' tab is active, showing options like 'Print Layout', 'Full Screen Reading', 'Web Layout', 'Outline', 'Draft', 'Ruler', 'Gridlines', 'Navigation Pane', 'Zoom', 'One Page', 'Two Pages', 'Page Width', 'New Window', 'Arrange All', 'Split', 'View Side by Side', 'Synchronous Scrolling', 'Reset Window Position', 'Switch Windows', 'Macros', and 'Macros'. The status bar at the bottom indicates 'Page: 1 of 3' and 'Words: 481'.

Tying it together

## TEMP.PERISCOPE

State-sponsored, mission-driven adversary conducting espionage activities to fulfil predefined EEIs



# DIAMOND MODEL

## CAPABILITIES

Leverages open source tools such as Cobalt Strike combined with custom-malware leveraged during different stages in their operations. Uses SCANBOX. Performs in-depth reconnaissance to enumerate victim systems before implanting high-value malware. Continuously re-engineer their malware to adapt to their operating environment



## INFRASTRUCTURE



Various VPS providers

## VICTOMOLOGY

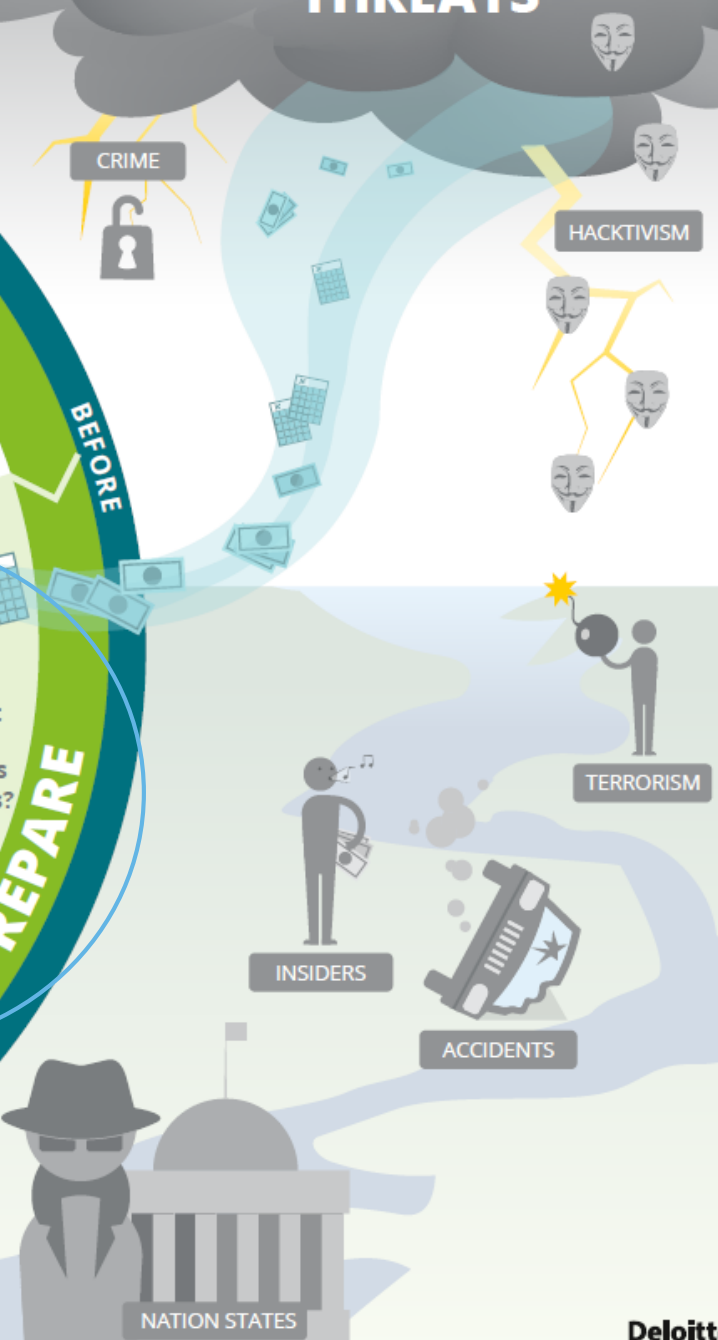
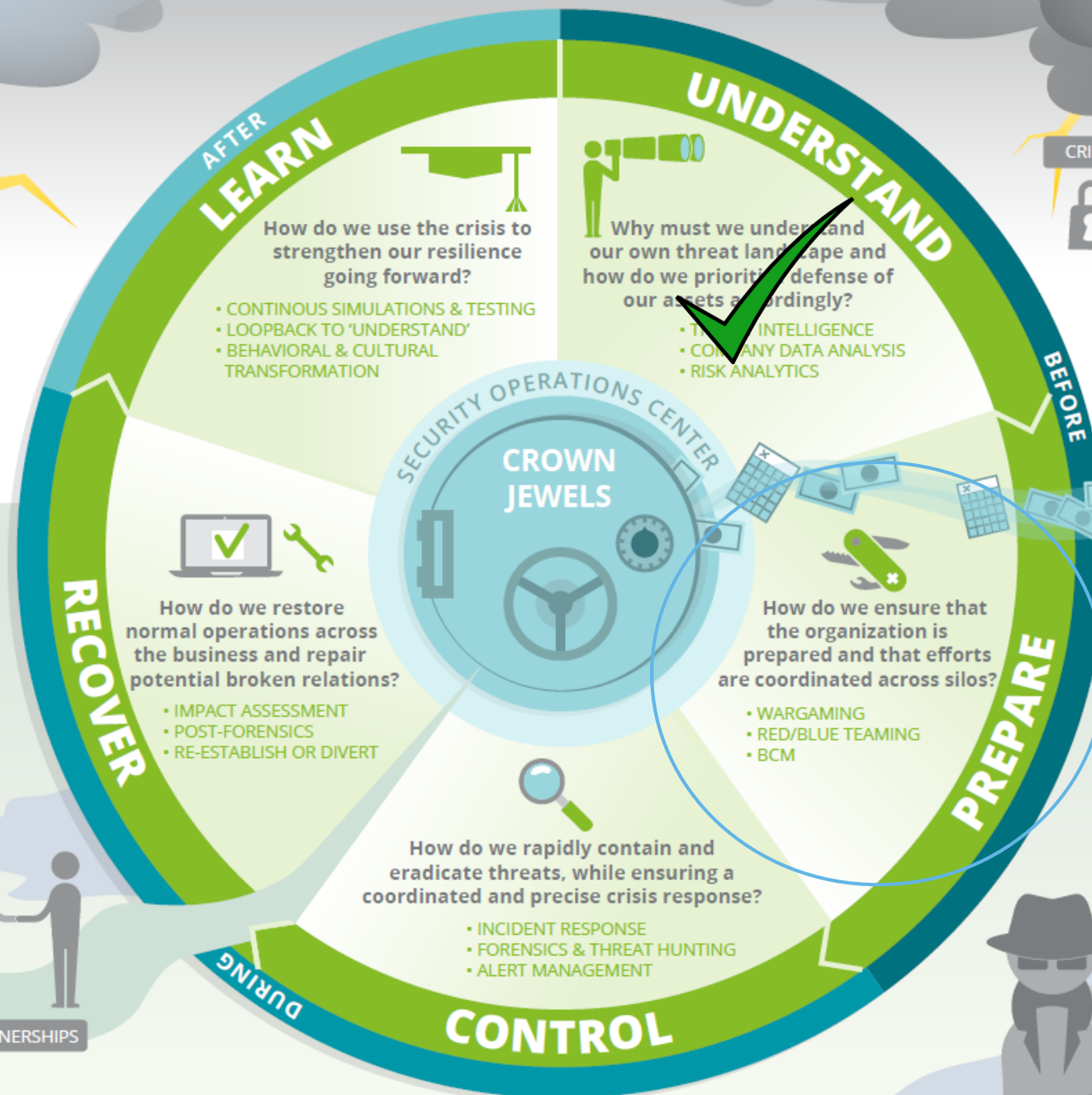
Nexus of CDCs, Universities, Aerospace as well as Engineering, Chemical, Government, Shipping Sectors





# RISKY BUSINESS

# THREATS

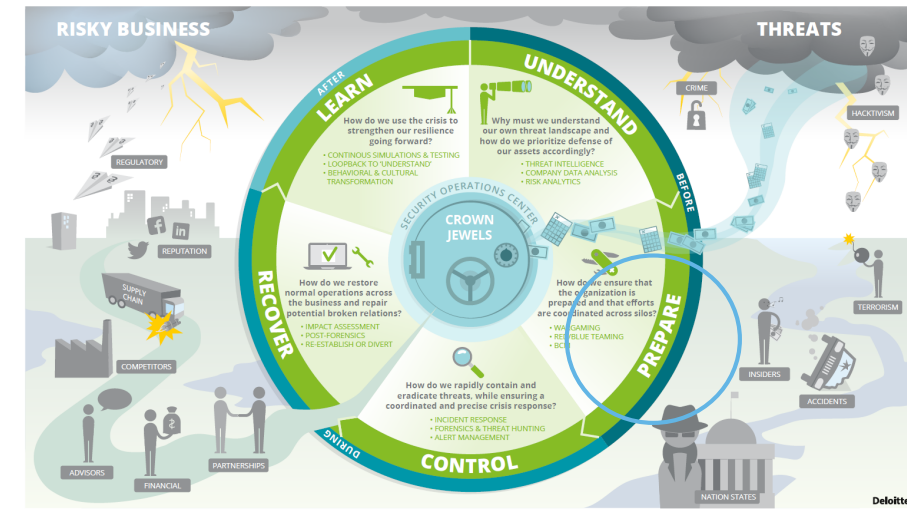




# What is?

## Intelligence-driven incident response

### Unwrapping 'prepare'



### Challenge

Many organizations fail to coordinate across silos or link crisis management plans with overall strategy and so their efforts are not cost-effective, focused on the most critical scenarios or in line with high level performance objectives.

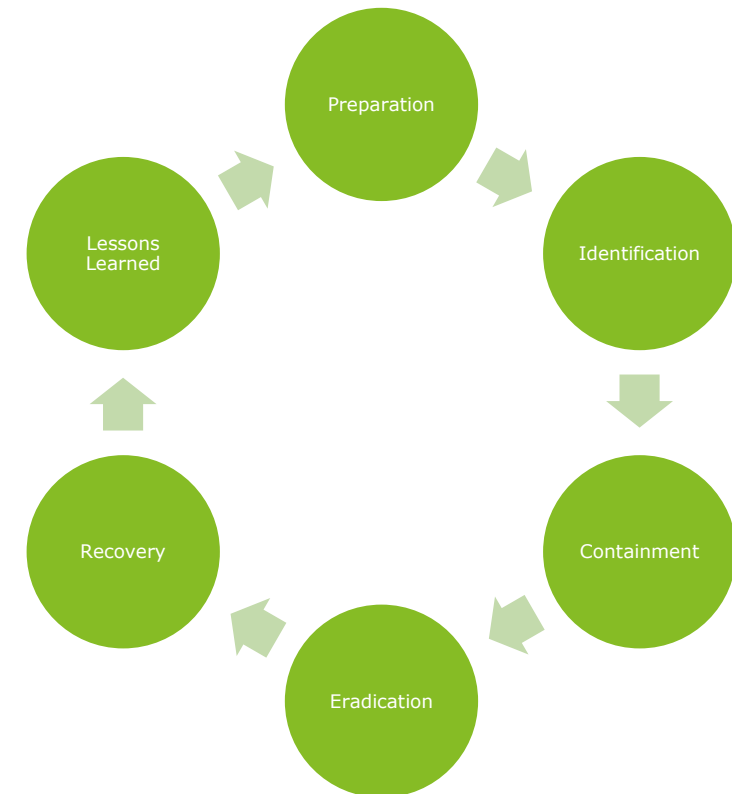
### What is needed?

Preparation and planning is key to managing a crisis:

- Decide what is important
- Clearly define roles & responsibilities
- Plan for critical risk scenarios
- Ensure contingencies and sufficient resources
- Set up systems and partners
- Train and communicate plans

### Core components

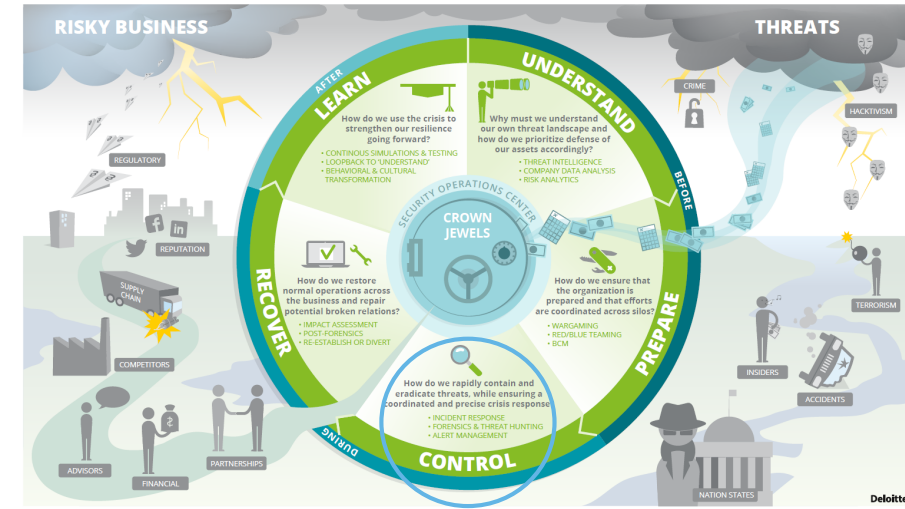
- Wargaming
- Intelligence-led red/blue teaming
- Crisis management strategy
- Stakeholder dialogue
- Business continuity management and planning
- Communication plans
- Issue management
- Executive and spokesperson training.



# What is?

## Intelligence-driven incident response

### Unwrapping 'Control'



#### Challenge

When a crisis occurs, the executive response is highly scrutinized and must be rapid, coordinated and precise. Information is imperfect, things escalate quickly, and mistakes are very costly to the reputation of the company – and increasingly to its leaders.

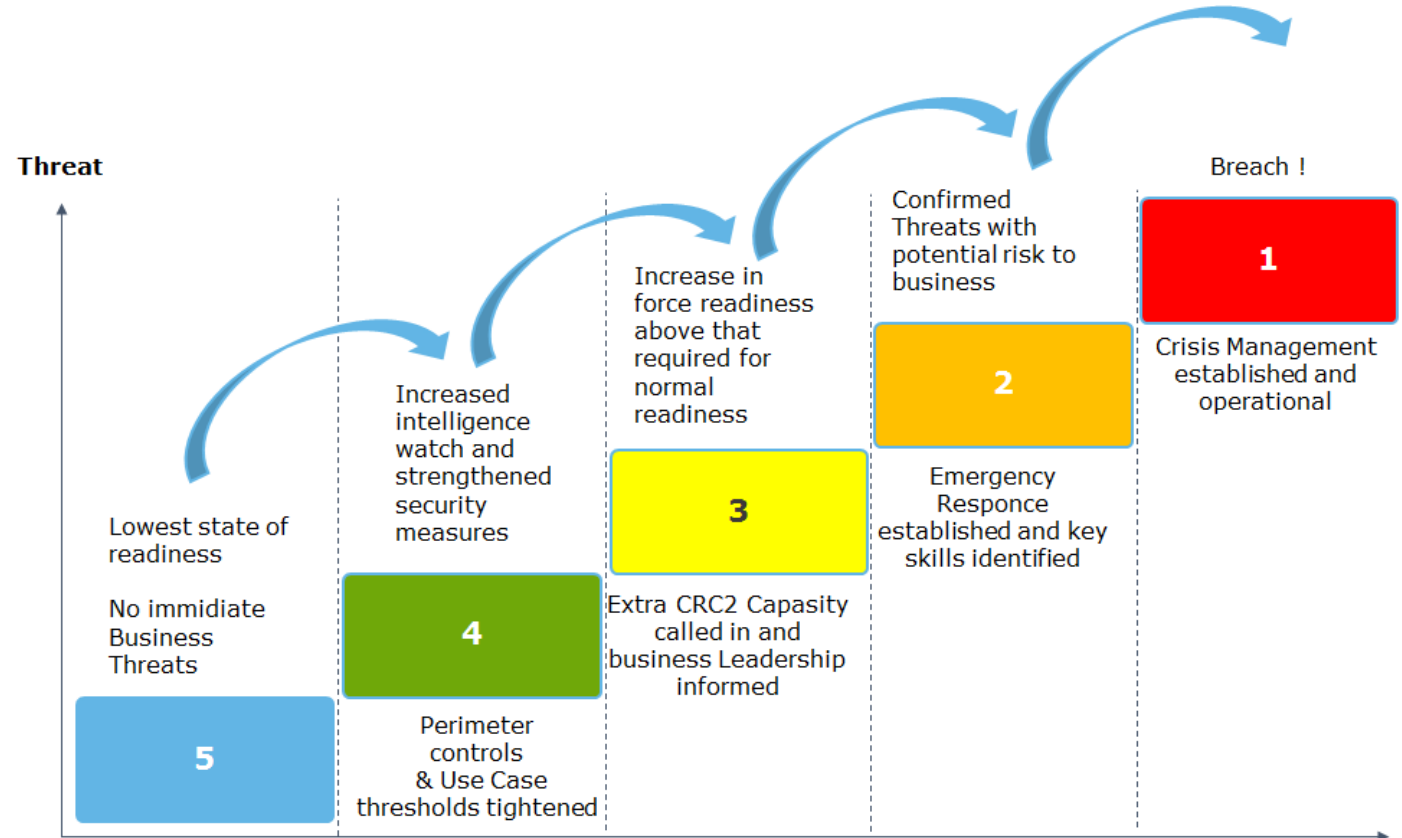
#### What is needed?

Acting quickly and in control takes decisiveness:

- Mobilize crisis management team and support
- Decide your strategic intent
- Find necessary information
- Formulate position and key message
- Contain the situation
- Communicate with internal and external stakeholders
- Evaluate continuously.

#### Core components

- Executive coaching, advice and 2<sup>nd</sup> opinion
- (Cyber) incident response
- Forensics & intelligence
- Crisis communication
- Global 24/7 support
- Crisis management office



# What is?

## Intelligence-driven incident response

### Unwrapping 'Recover'

#### Challenge

Without attention and focus, recovery can be slow and the loss of trust, disruptions to the business, and damage to key relationships can linger. It is easy to neglect the fact that much of the real work begins after the storm is over.

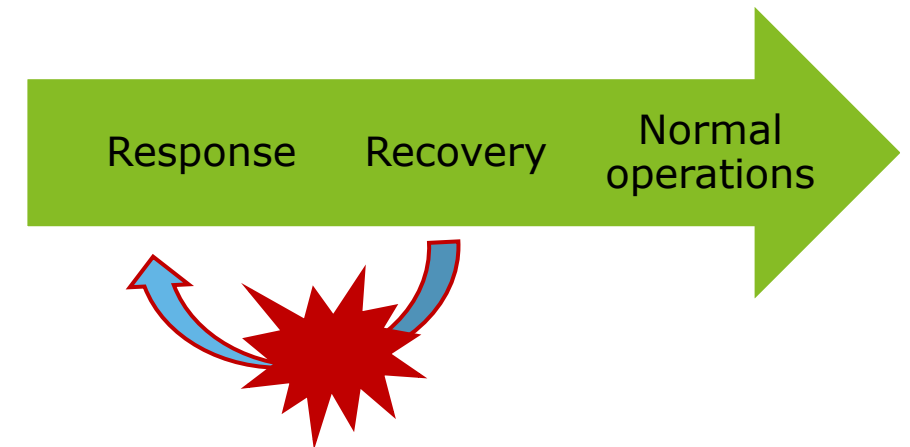
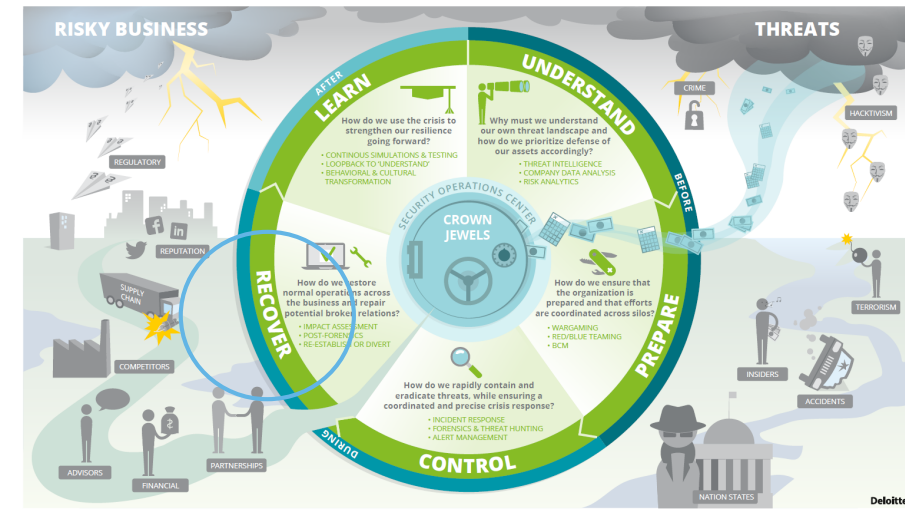
#### What is needed?

Recovery after a major crisis takes focus and effort:

- Understand the crisis impact
- Adjust strategy
- Identify priorities and assign organizational ownership
- Coordinate medium and long-term plans
- Liaise with important stakeholders and partners
- Follow-up with authorities where relevant.

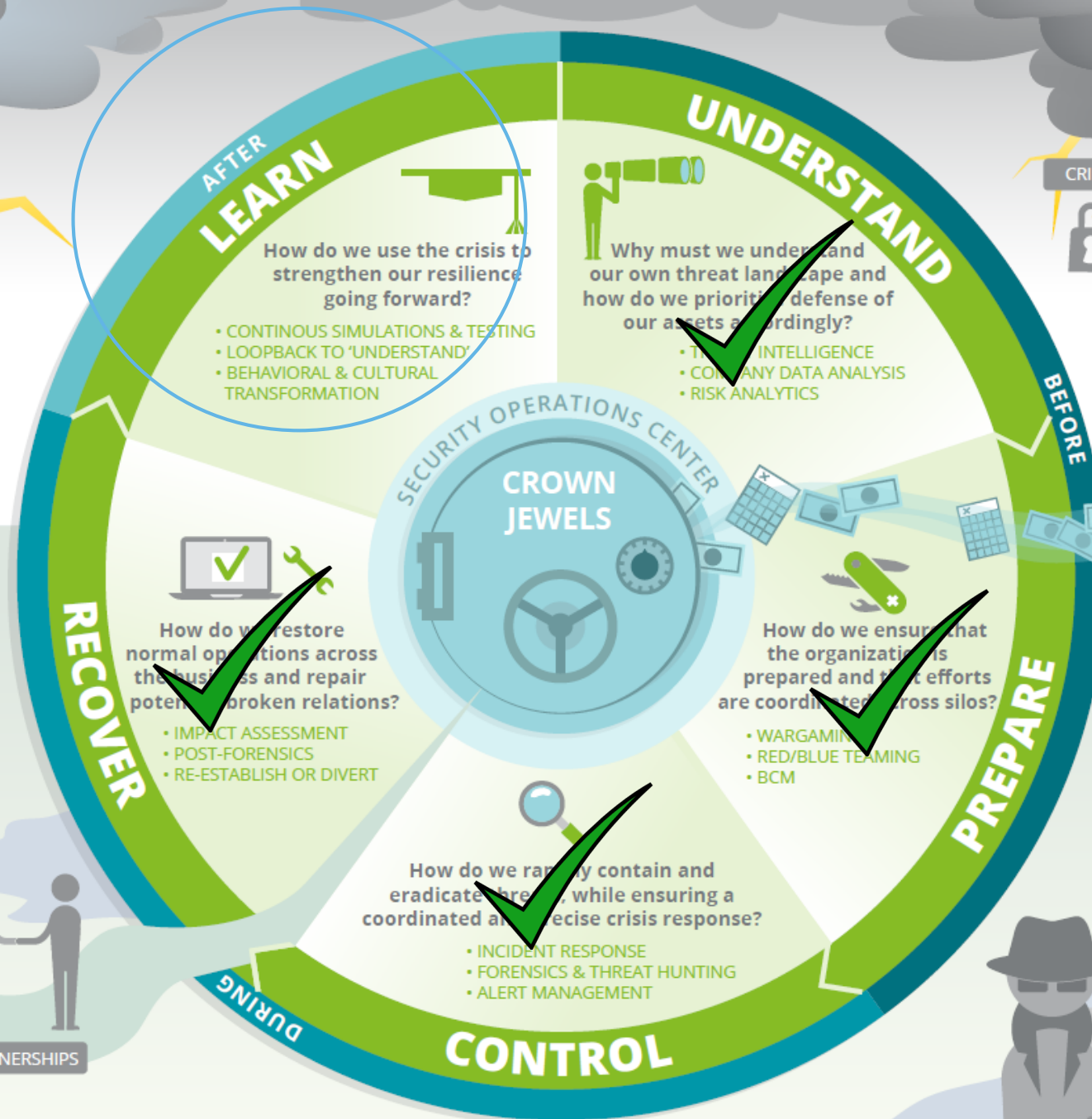
#### Core components

- Impact assessment
- Forensics
- Post Event Recovery Office
- Strategy and plan revision
- Stakeholder management
- Corporate communication.



# RISKY BUSINESS

# THREATS



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# What is?

## Intelligence-driven incident response

### Unwrapping 'Learn'

#### Challenge

Often mistakes are repeated because organizations fail to learn from crisis post-mortems, rely on tacit knowledge, fail to train or to dedicate enough resources to thoroughly test their written plans through for example carefully scripted simulations.

#### What is needed?

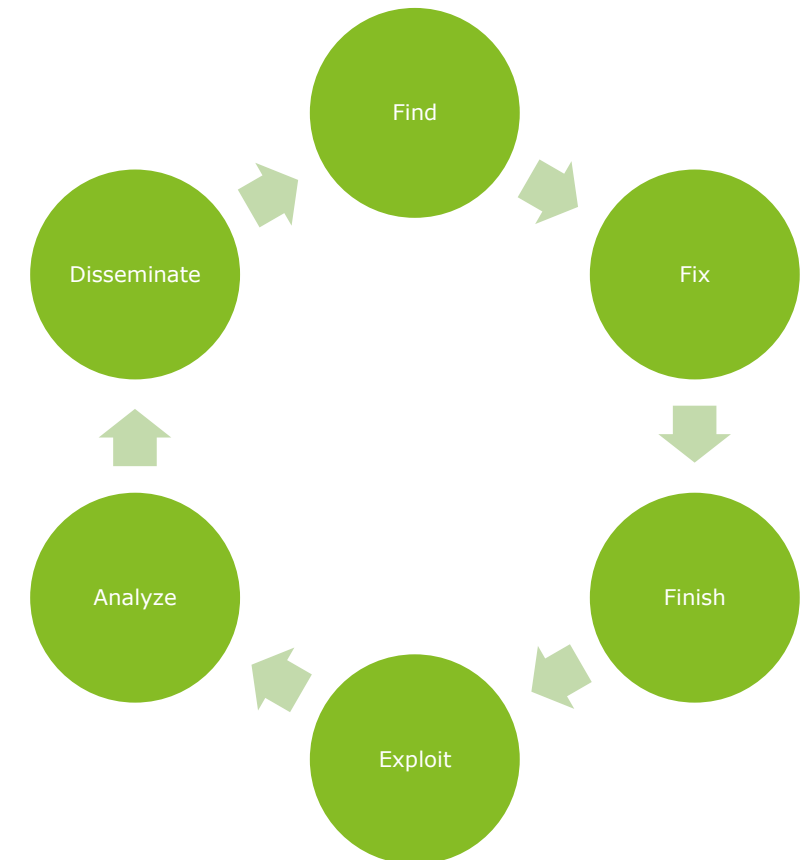
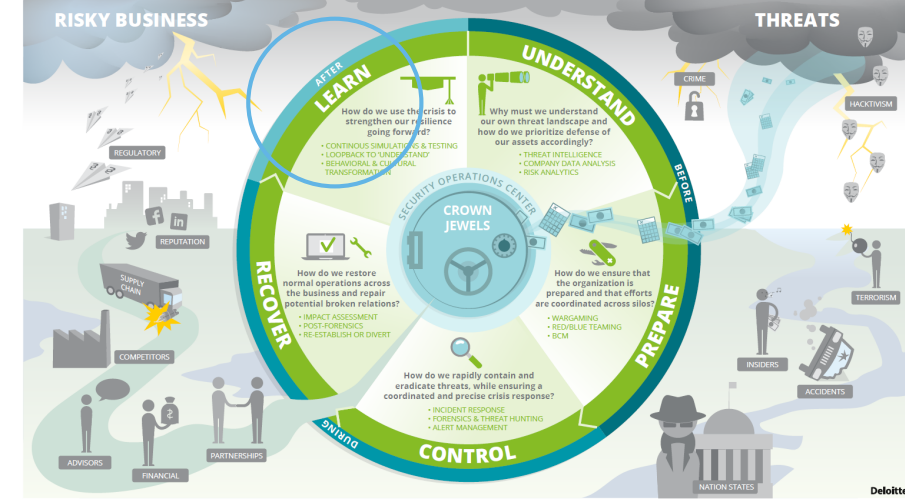
- Learning leads to improvements if the opportunity is not squandered:
- Identify what went wrong
- Adjust plans & procedures
- Increase efforts as needed
- Test and simulate identified risk scenarios
- Continuously train across organization

#### Understand your business

##### • Crown jewels

#### Core components

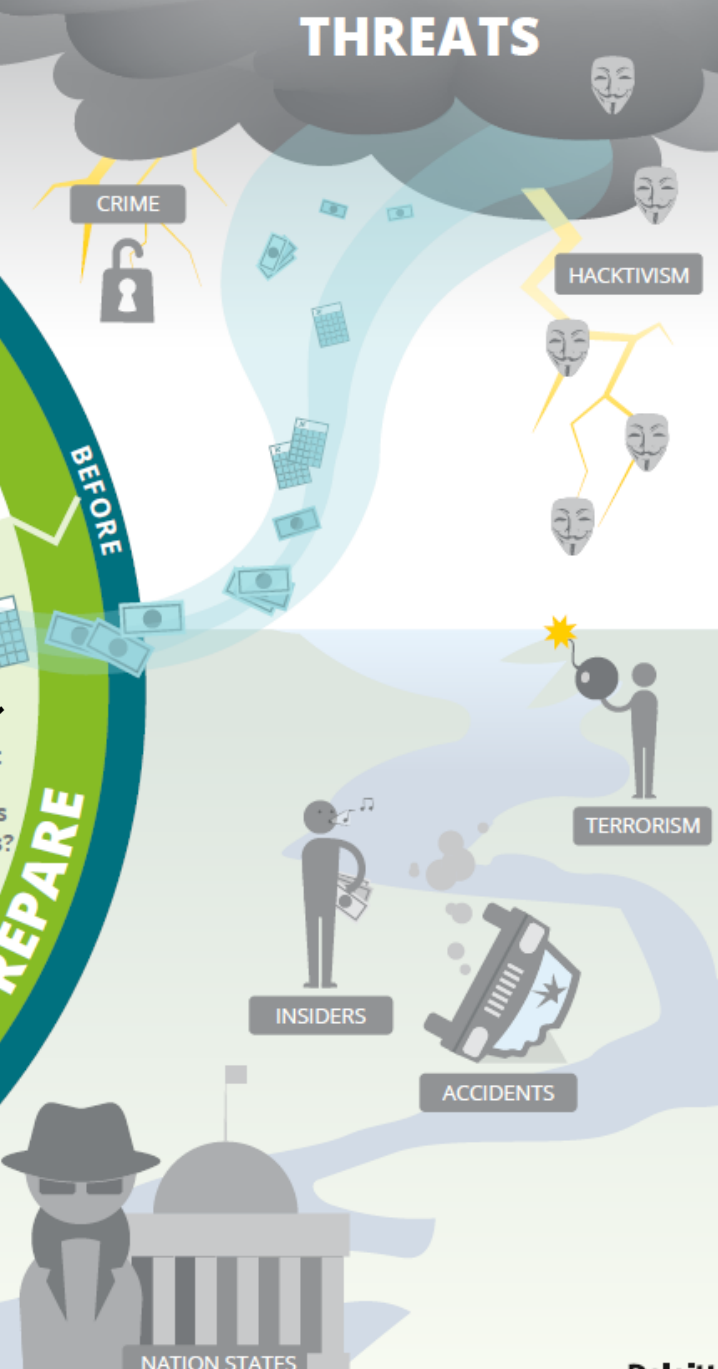
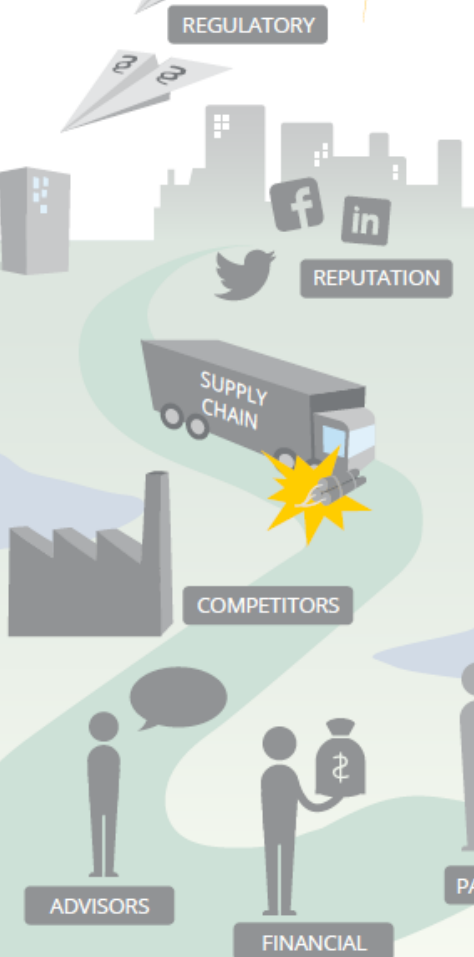
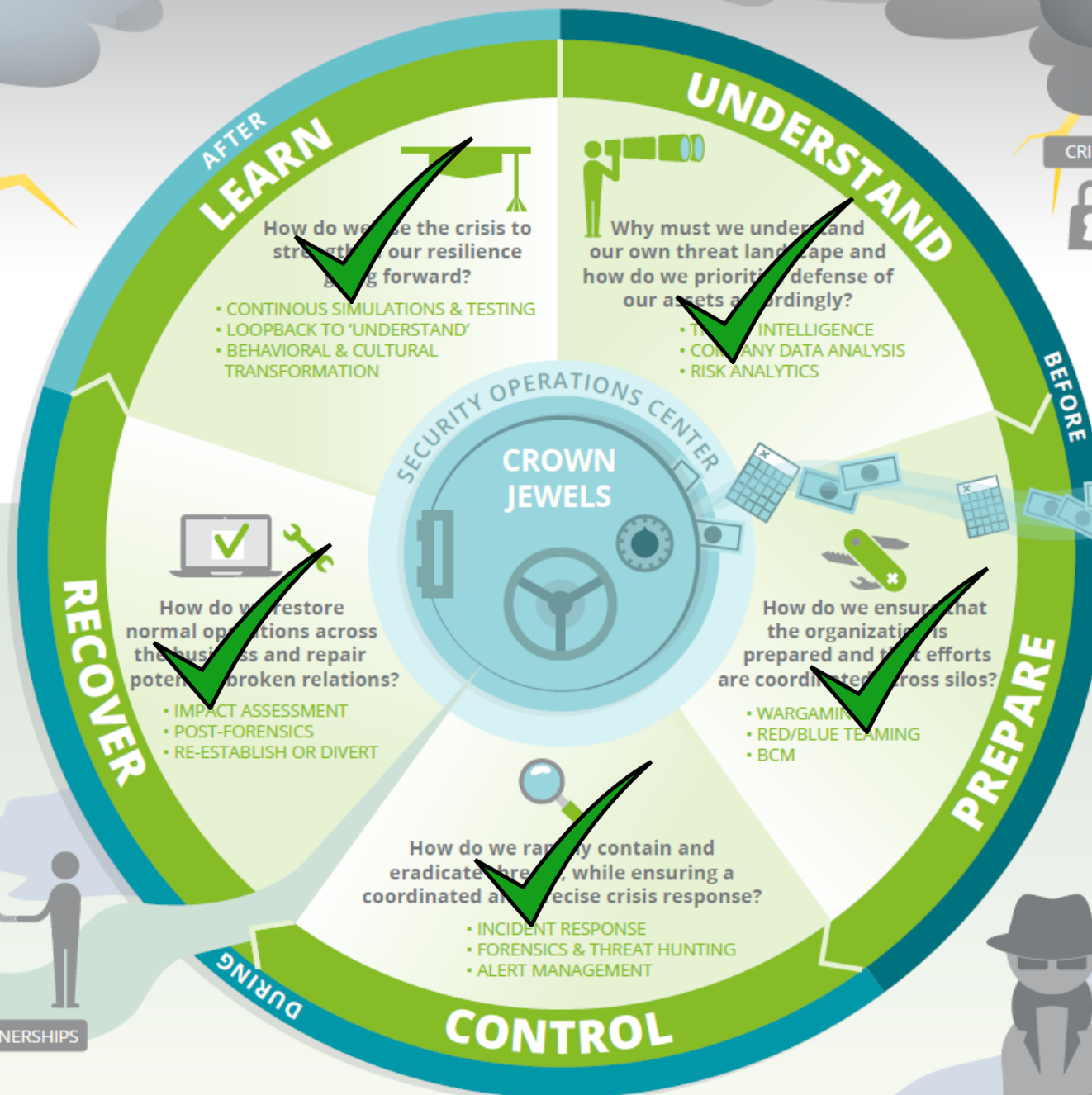
- Post-crisis evaluation
- Simulations & war games
- Penetration tests, ethical hacking
- Behavioral and cultural transformation
- Standards and certifications





# RISKY BUSINESS

# THREATS





Please reach out

Thomas Thomasen  
*tthomasen@deloitte.dk*  
30 93 46 19

Find det fulde program på  
[grabngo.deloitte.dk](http://grabngo.deloitte.dk)

*Grab'n  
Go*



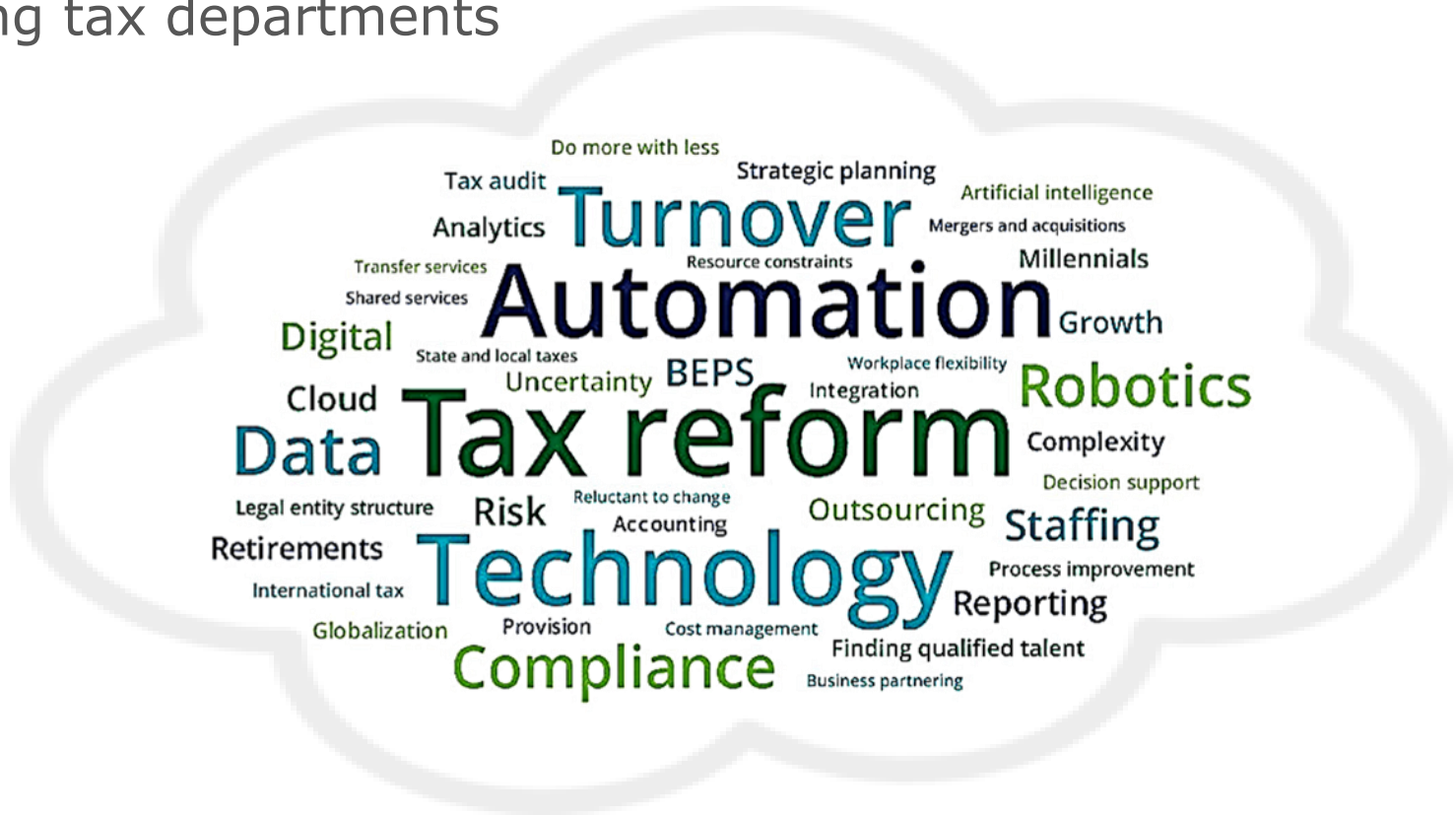
## Tax Transformation

Jonas Reinholdt Albjerg

28 November 2018

# Changing environment for tax

## Trends impacting tax departments



Global  
regulatory  
changes



Rapidly  
changing  
technology



Brand  
risk



Global  
transparency




Limited  
resources



Add more  
value

# Rapidly changing technology

## Trends impacting tax departments (continued)



### Work

The **type of work** Tax may be doing in the future

You may see more.. You may see less..

- Work that is **exception-based**, where humans get involved when investigation is required
- Work that is **purpose-driven**
- **Automated reconciliation** processes that are faster and more accurate
- **Real-time dynamic reporting**, visualized using dashboards with automated commentary
- **Self-service** reporting
- **Targeted analytics** based on business needs that leads to actionable change
- Faster and more accurate **predictive modelling and forecasting**
- **Chatbots** handling questions that were once delegated to analysts, taking hours instead of days to respond

- **Transactional** accounting activities and manual processes
- Work that is **schedule-driven**
- **Manual reconciliation** processes prone to human error
- **Static, retrospective reporting** prepared at month end
- **Tax distributing reports** to the business
- **Generic insights** pushed to the business with no alignment to the organizational strategy and business needs
- Fragmented, statistical models and **reporting after the fact**
- Analysts using **Excel to manually consume and transform large amounts** of raw data to uncover insights




### Workforce

The **workforce composition, skills and capabilities** required

You may see more.. You may see less..

- **Business partnering/ consulting** mindsets and advanced problem-solving skills
- **Storytelling and creativity**, taking stakeholders along the journey by turning insight into impactful, visual decision support
- **Diversity in education backgrounds** (e.g. digital IT, engineering, data science, communications)
- An **agile operation** that embeds tax workers in the business
- **Data scientists and data engineers** driving analysis and actionable insight with cognitive technologies
- Changes in the **nature of careers**, including reduced job tenure and faster skill redundancy

- **Difficulty in dealing with ambiguous problems** and situations
- **Spreadsheets**, tables and text-heavy explanations
- **Core accounting and finance degrees** as well as skills and capabilities geared toward **repeatable process-driven roles**
- **Disunion** between the tax department and other functions of the business
- **Traditional tax accountants and compliance professionals**
- **Permanent, homogenous careers**



### Workplace

The **structures, tools and environments** to enable the worker to create value in the future

You may see more.. You may see less..

- Roaming, mobile teams that work in a **range of physical environments**
- **Robots answering questions** with spoken natural language, charts, and graphs, having a multi-sensory presence in the workplace
- **Scalable tax functions** leveraging internal and external networks and delivery models
- **Flat organizational structures** and a growing trend away from process roles to **high-performing teams**
- Smart and frictionless **remote/virtual work spaces** set up to foster safety, health and wellness
- A **nimble and innovative culture** catering to flexible work arrangements
- Real-time access to documents and data through **collaboration platforms**

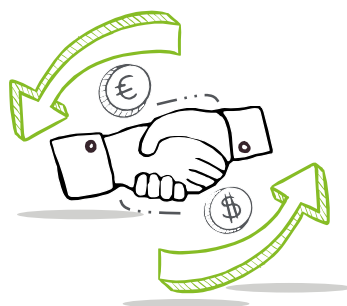
- **Stationary teams** where the working day is bound by geography or physical constraints (i.e. offices)
- **Robots having a passive presence** in the workplace
- Tax functions relying primarily on **in-house staffing**
- **Hierarchical, siloed organizational structures**
- **Traditional office spaces**
- Organizations that are **restrictive and slow to react**
- Documents stored on **separate drives** or individual desktops



# Rapidly changing technology

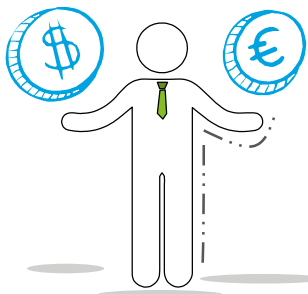
## Tax in a digital world is already with us

How will global tax groups be affected by data sharing between authorities?

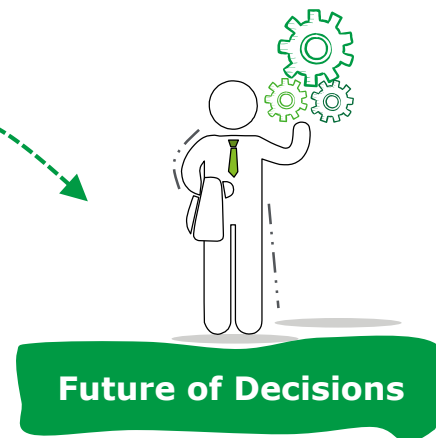
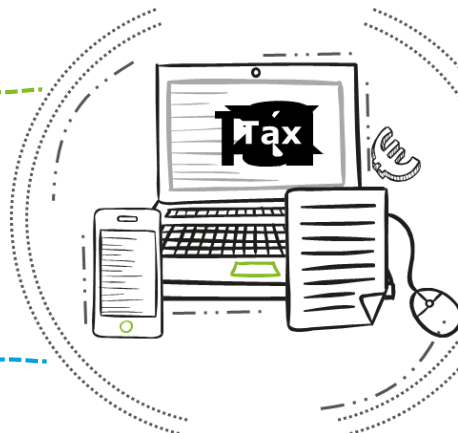


**Digitisation of tax returns**

What is a tax department of the future - talent models, skills and work methods?

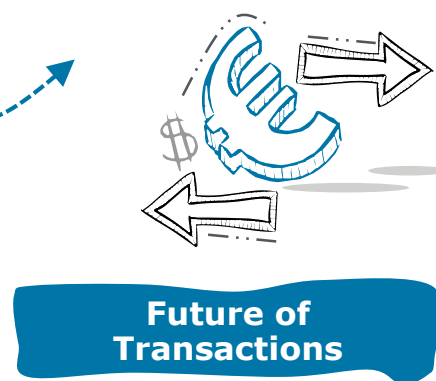


**Tax organisational models**



**Future of Decisions**

What decisions will be made by humans and what will machines decide in the future?



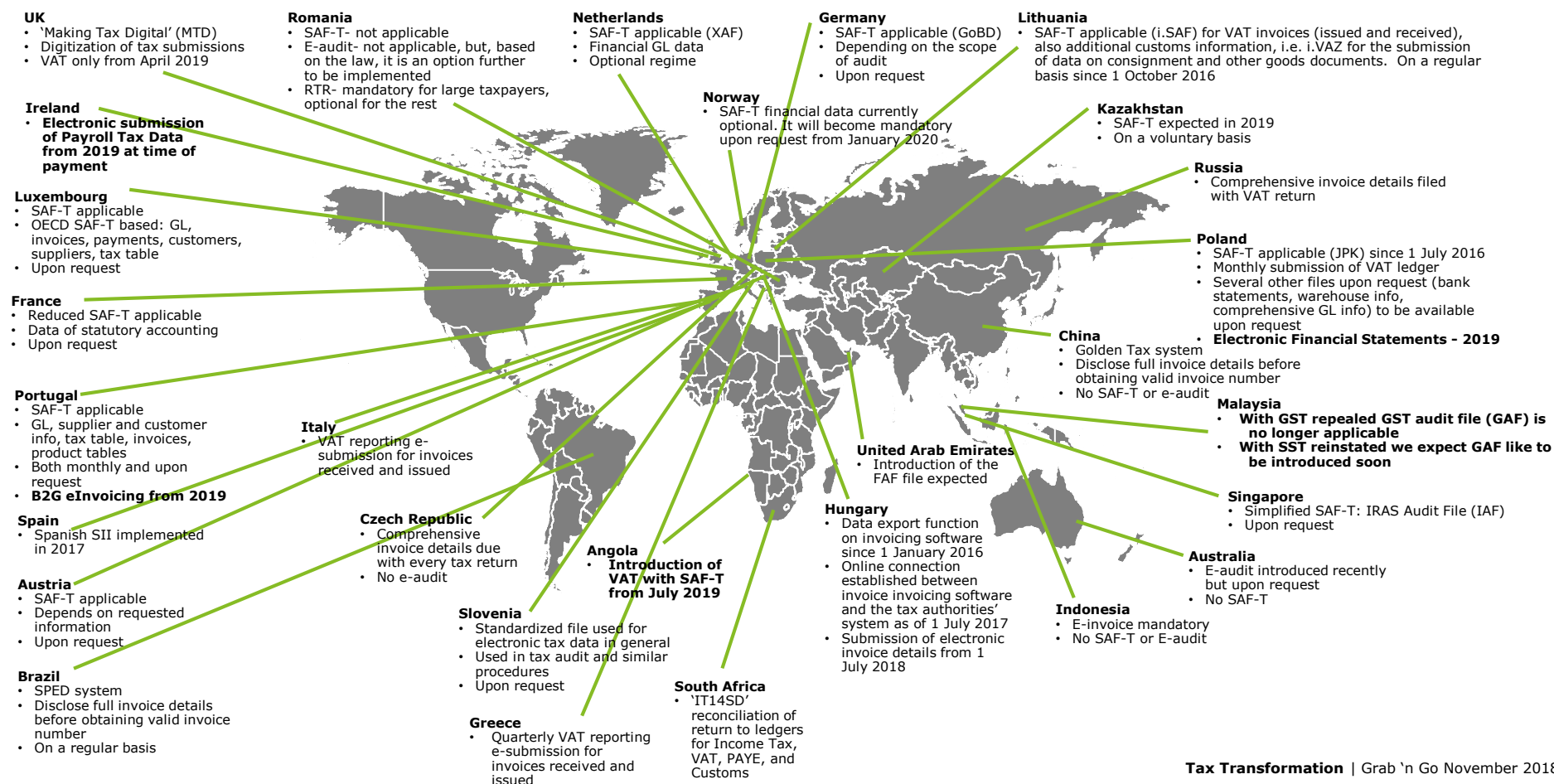
**Future of Transactions**

How will tax authorities move to real-time reporting affect the practice of tax?

# A rapidly changing environment

## SAF-T, real-time reporting and other requirements overview (as of October 2018)

While not exhaustive, the following map highlights key country requirements for SAF-T, e-audit and real-time reporting requirements, particularly within Europe. New legislation is coming out frequently which reflects the dynamic nature of this area.

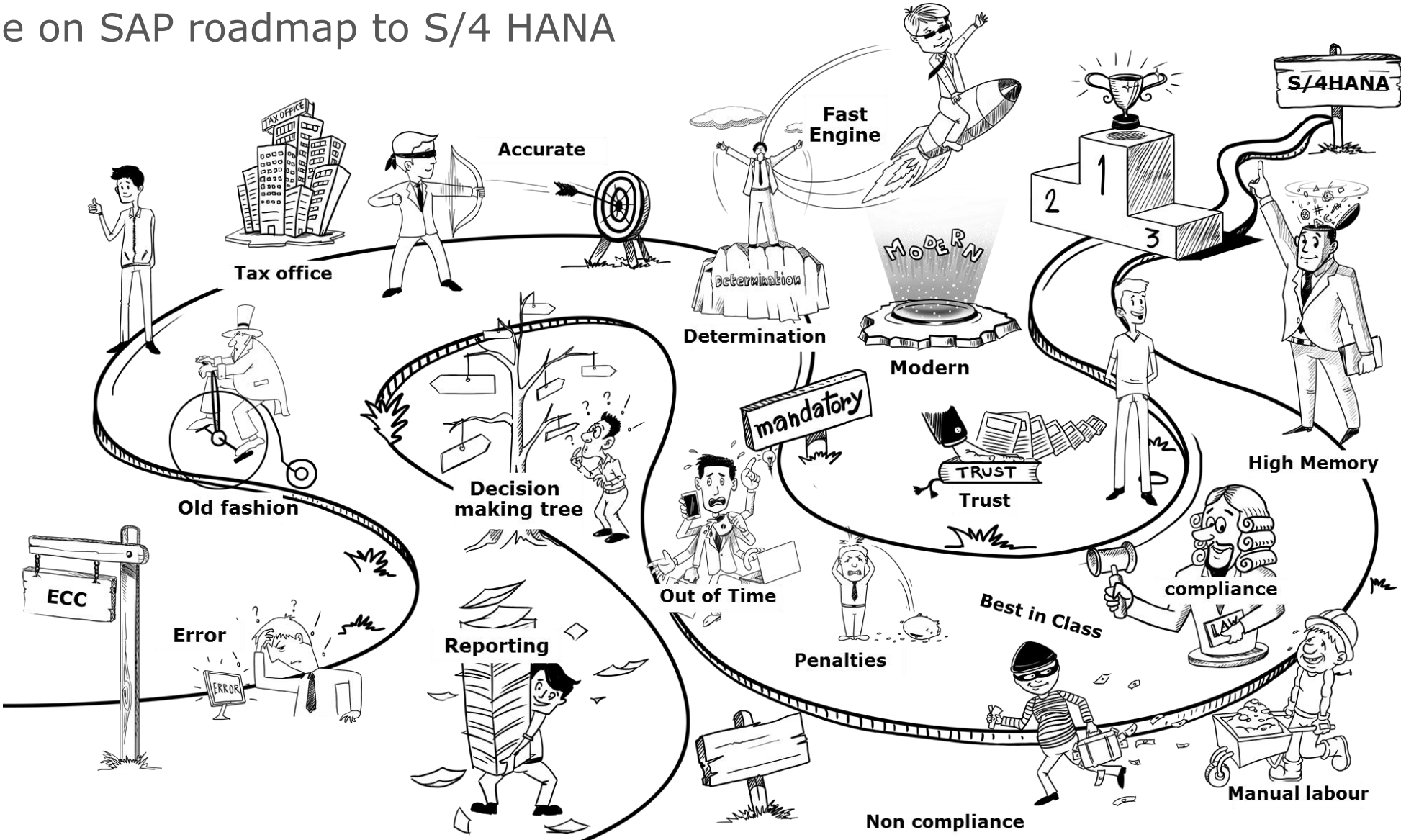


# Tax data in ERP



# A changing environment

## Example on SAP roadmap to S/4 HANA



# Tax part of your finance transformation?

## Hot topics

The tax environment continues to evolve at an increasing rate, particularly in light of additional legislative requirements, and new finance and tax technologies.

### 1. SAF-T, eAudit and real-time reporting

- Electronic transfer of large datasets to tax authorities.
- Move towards real-time reporting with daily or monthly submissions of 100+ data points, including e-invoicing.
- Covers multiple areas, including GL, AP, AR, FA, cash, and journal data.

### 2. Making Tax Digital

- From April 2019, the UK VAT return should be digitally submitted to HMRC via an API, with digital links between systems involved in the VAT return process, including ERP systems.
- Other taxes to follow after VAT.

### 3. US Tax Reform

- US Tax Reform impacting global organisations with a US footprint mean additional compliance requirements and potential impact on system set-up. Also consider impact of Wayfair decision on local nexus

### 4. SAP S/4 HANA and tax solutions

- Organisations to move from ECC/ERP to SAP HANA S/4
- In addition, HANA has 4 dedicated new tax products, including a tax engine, an external tax reporting solution, an e-docs solution, and a data analytics product.

### 5. VAT complexity

- VAT complexity is increasing from place of supply rules across borders to the provision of digital services and digital invoicing.
- Obtaining partial exemption data or calculating mixed recovery rates in systems is becoming increasingly more sophisticated.

### 6. BEPS & Country-By-Country Reporting

- BEPS guidelines are designed to stop artificial movement of profits to low-tax jurisdictions.
- CBCR is a reporting tool gathering financial and non-financial data such as revenue and tax paid, or employee numbers and business activity.

### 7. Operational Transfer Pricing

- Parts of the BEPS agenda focus on how profits are linked to the underlying activity.
- Operational TP supports real time review of prices against actual and forecast data.
- Tax and finance can make joint price setting decisions for recharges.

### 8. Data

Data is becoming more and more important for many reasons. Advances in technology and increasing legislation (e.g. GDPR) means that the importance of data cannot be ignored and advanced organisations are looking at how to use data to gain a real competitive advantage.





# Tax part of your finance transformation?

## why is it important to consider tax when implementing ERP

Ever increasing (and often system-intrusive) legislative requirements means that tax cannot be ignored when implementing finance transformation programmes. In addition, there are a number of reasons why tax has to be considered differently from other finance processes. These include:



**Tax spans the system** – other processes are naturally grouped by business function (finance, supply chain, etc.); tax has dependencies across all of these areas



**The number of different taxes within 'tax'** – it cannot be viewed as a single process, but must consider a wide range of different elements including corporate taxes; VAT; transfer pricing; withholding taxes; employee tax reporting requirements (even where payroll is not in scope);



**Getting tax right is a statutory requirement** - 'nearly right' is not an option, there are reputational and financial penalties for non-compliance and, in some jurisdictions, even criminal sanctions. BEPS Actions as well as newer requirements around eAudit and eFilings looking to increase the need for compliant systems and processes for tax (see Systems Audit below).



**Cash benefits to be gained** – it is our usual experience that, by providing more tax-optimised data from the system, there can be substantial cash savings globally to the business. This usually only requires finessing of the system design, rather than wholesale changes so does not attract a large cost – the savings are most commonly found in the jurisdictions where there is no in-country tax team and we have a checklist of accelerators to identify such savings (see Common Areas of Benefit slide).



**The level of localisation required** – each jurisdiction has a unique set of tax requirements – whilst these can usually be pooled into groups of countries with similar requirements, the amount of localisation required for tax (and standardised processes) is often underestimated and this impacts adversely on the quality of the final design that can be achieved.



**Systems audit** – much more systems data and information is being collected by Tax Authorities which opens up an organisation's ERP systems to much more scrutiny than ever before. This includes newer global requirements around e-audit and e-filing of detailed information directly from core systems, e.g. SAF-T and iXBRL in Europe and SPED in Brazil.

# Tax part of your finance transformation?

## Common failures in ERP and tax

### System failures...

- Tax determination logic: automation can still contain errors, manual leaves determination open to human error
- Tax codes: often insufficient tax codes to meet reporting requirements leading to manual intervention
- Reporting: standard reports often insufficient for each country
- Invoicing: layout or number sequences can be incorrect
- Foreign VAT: challenge to accommodate tax regimes and rules
- Master Data: Fields not set-up correctly, not mandatory, not owned

### Other failures...

- Manual Work, Duplication of Effort, Interfaces: all raise risks
- Ownership: process and master data ownership not clear
- Training: inadequate for tax function on tax technology, and business on tax items
- Communication: not joined up approach during or after implementation
- Documentation: either insufficient or too technical

# Tax part of your finance transformation?

## However, the benefits of doing it right

### Monetary...

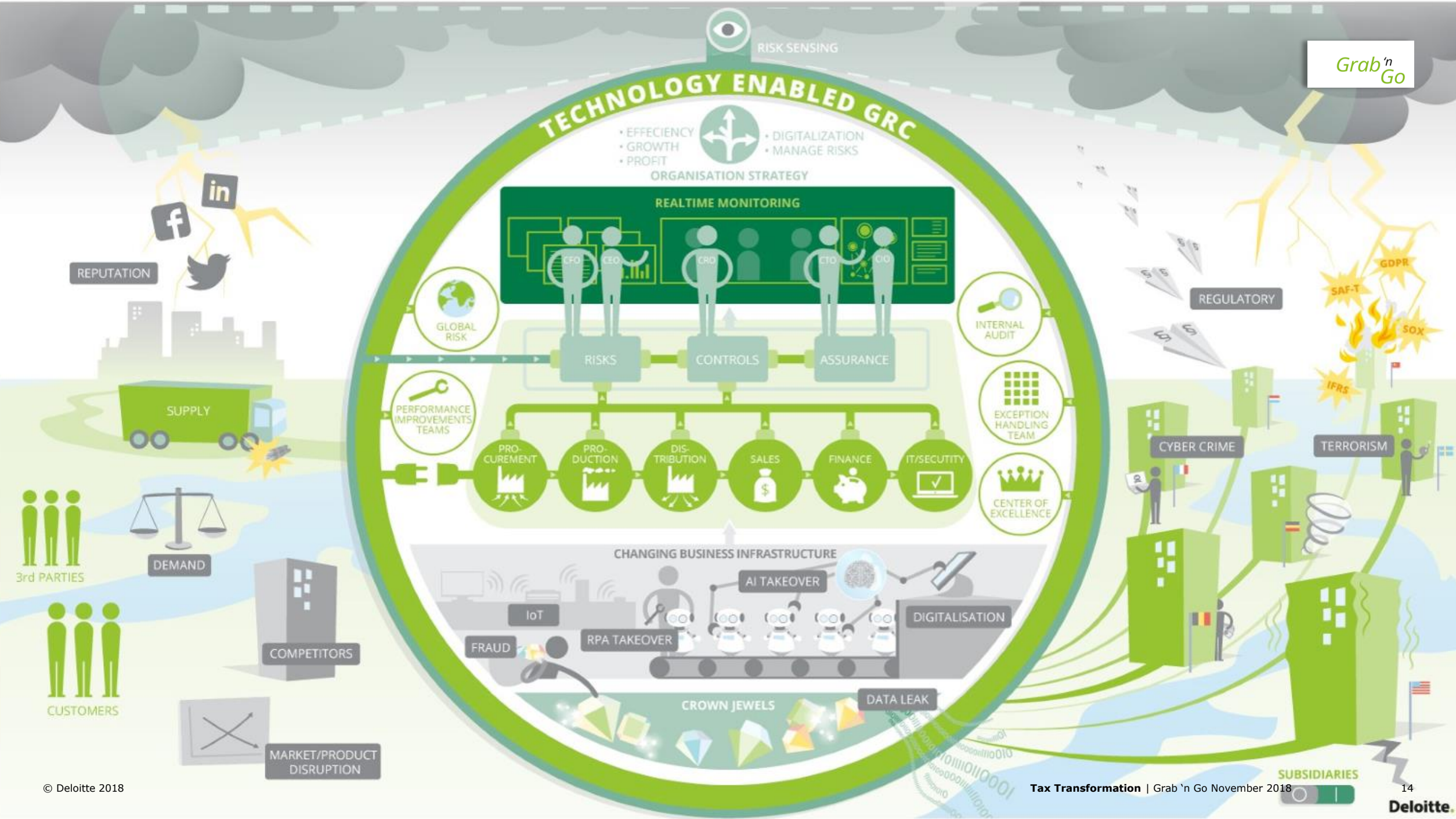
- Global tax burden: May be improved with commercially integrated tax planning
- Cash flow benefits: accuracy, timing, earlier reclaims, bad debts

### Data and Processes...

- Data Capture: improved data capture leading to more accurate tax treatment
- Transparency: transparent data allowing drill-down into details
- Consistency: Effective process with data applied consistently across the organisation
- Documentation: easier succession planning, and improve relations with tax authority
- Reconciliation: reduced reconciliation needed e.g. Intrastats to VAT return
- Pricing: difficult to get transparency and detailed data for pricing for transfer pricing purposes
- Errors: Potential for high profile errors reduced

### Resources...

- Investigations: reduced cost of compliance to respond to enquiries and/or investigations
- Errors: reduces manual effort leading to reduction in cost and potential for human error
- Timely and accurate: no need to rework data so can focus on value-added activities



# Tax Transformation

Change in operating model:  
insource, outsource, operate





# Tax Transformation

## Why tax? Why now? - trends



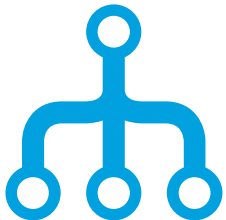
### Globalisation

Companies are increasing cross-border investments to grow and diversify and they are leveraging new delivery models.



### Competition

Lower economic growth is causing an increasing need to put capital to work and grow the top line. Higher competitive intensity due to new competitors, markets, and business models playing more important roles.



### Scalability

There are an increasing number of companies entering into transactions to create shareholder value such as split ups, spinoffs, acquisitions and divestures. Tax needs to have scale and agility to support these transactions.



### Business complexity and regulation

Navigating current and changing tax laws in multiple jurisdictions adds complexity, heightening sensitivity to risk



### Talent

Tax departments have increased need for personnel with advanced technology and business skills and capabilities in project management, leadership, and planning.



### Technology

Technology increases efficiency and ability to meet evolving demands; allows for deeper insights through data analytics and greater focus on high value add activities

# Tax Transformation

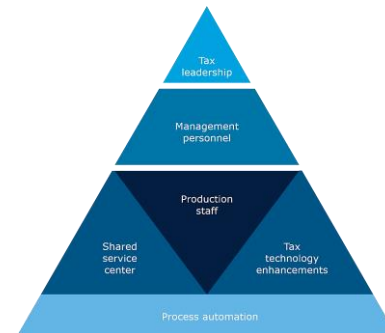
## What should a future operating model look like?

### The changing environment for tax

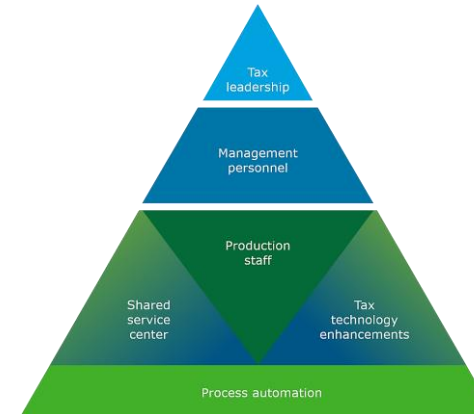


### New operating models are needed

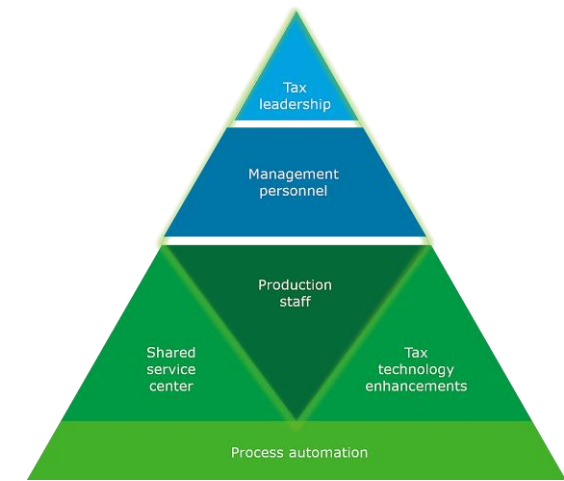
Big data, powerful technology, decreasing tax rates and inquisitive regulators are enabling the digitization of tax and a proliferation of tax operating models



Insource



Outsource



Operate

### Finding opportunity in change

#### Operations

- Reduce costs
- Right-size global spend
- Alleviate resource constraints
- Reinvest in other areas of the business
- Maintain quality

#### Technology

- Transformed tax processes and technology
- Access to leading-edge technology
- Streamlined compliance
- Drive value through data

#### Talent

- Access to leading tax specialists
- Reduce difficulty of hiring and retaining tax professionals
- Solutions could include redeployment, loan staff, and talent transfers

# Tax Transformation

Finding opportunity in change - the levers for change



## Operations

- Reduce costs
- Right-size global spend
- Alleviate resource constraints
- Reinvest in other areas of the business

## Technology

- Transformed tax processes and technology
- Access to leading-edge technology
- Maintain quality
- Streamlined compliance and advisory and reporting

## Talent

- Futureproof ~~your~~ resource with a pool of tax and technology specialists
- Permanent, contract, secondeo, outsource and talent transfer options

# Tax Transformation

## Finding opportunity in change

Grab'n  
Go

There isn't a one size fits all approach when it comes to tax operating models



Know the signs for making change



Capitalize on change by finding the levers



Optimize the Tax Department by fundamentally changing the model



Develop a roadmap for delivering the future model

A close-up, artistic photograph of a human eye. The eye is looking slightly to the right. A bright, warm light source is positioned in front of the eye, creating a large, glowing reflection on the iris and pupil. The surrounding skin and eyelashes are visible in soft focus.

# **The future of work**

The new realities of work



57% OF JOBS ARE VULNERABLE  
TO AUTOMATION



Frey and Osborne -  
Oxford Martin School  
Oxford University



70% OF LEADERS  
BELIEVE THEY NEED  
NEW TALENT & SKILLS

Deloitte survey with MIT

BY 2020, OVER 75%  
OF S&P 500 WILL BE  
COMPANIES WE HAVEN'T  
HEARD OF



Professor Richard Foster -  
Yale University

30 YEARS



1984



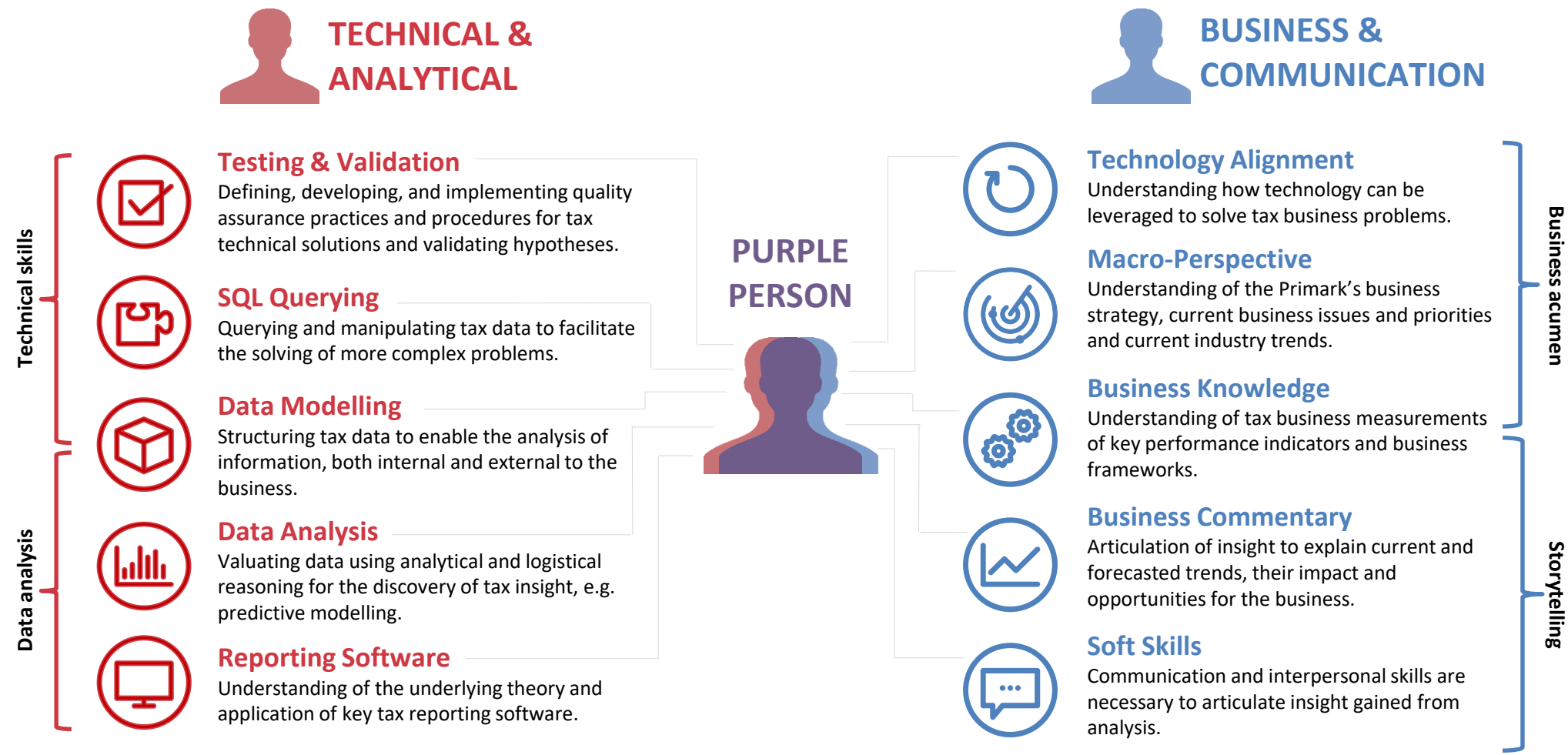
2014

5 YEARS

John Seeley Brown - The New Culture of Learning

# The future of work

## Resources in a tax department





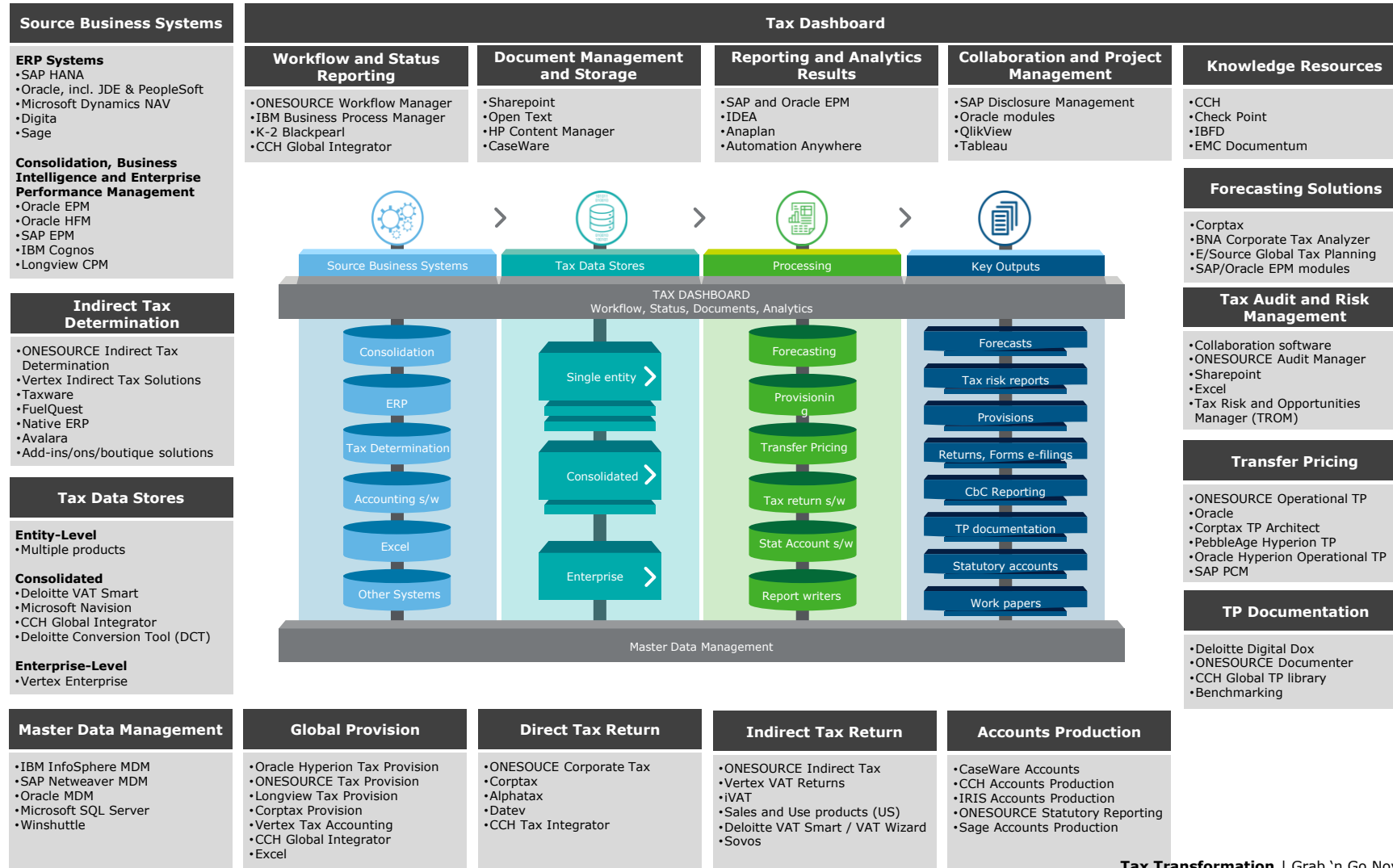
# Technology accessible for everyone

The driver of the fourth industrial  
revolution



# Tax technology landscape in 2018/2019

This diagram shows the overall technology landscape for the global business tax record to report cycle. It sets out key product categories and the major products in those categories.





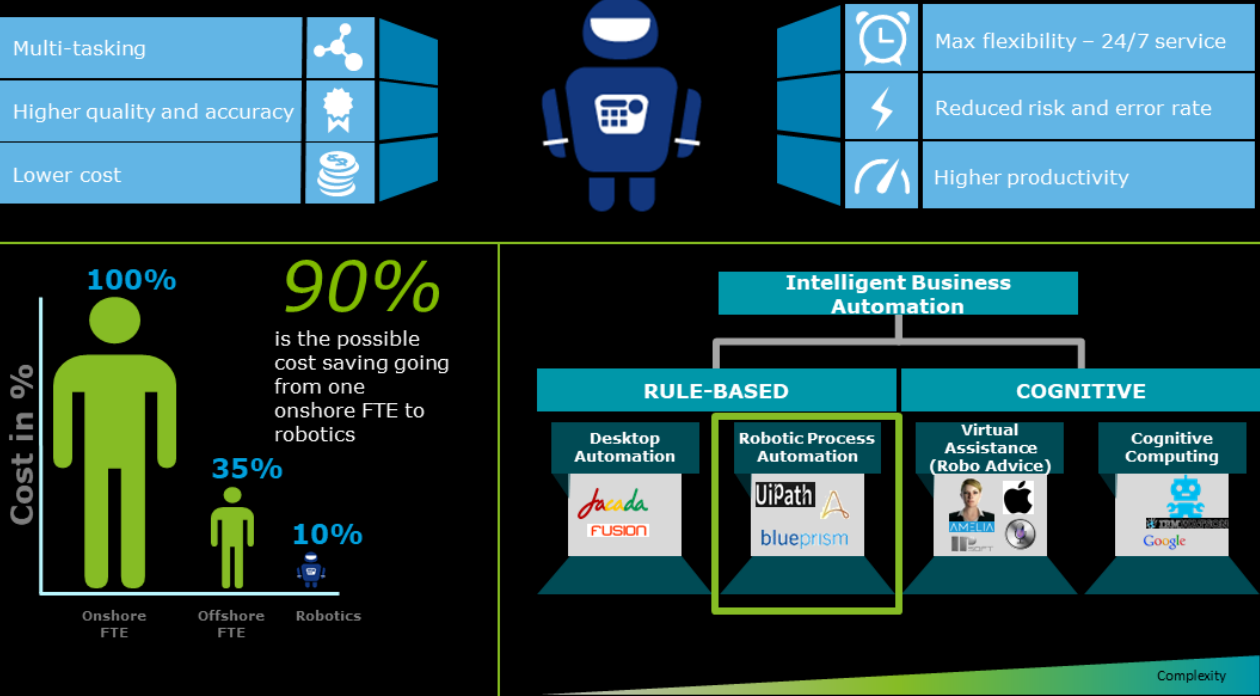
# Learning to love the robot

Bringing the robot into our personal and  
working lives



# Robotic Process Automation: Tax

## Identifying your benefits



*Interesting fact!*

*1 minute of work for the robot is equal to approximately 15 minutes of work for a person.*

# Robotic Process Automation: Tax

## Processes and activities

Function	Global Tax Function									
	Record to Report processes							Governance and Business Partnering		
Components	<div> </div> <div>Corporate Income Tax compliance</div>	<div> </div> <div>Indirect Tax compliance</div>	<div> </div> <div>Employment Tax</div>	<div> </div> <div>Transfer Pricing</div>	<div> </div> <div>Group Tax Reporting</div>	<div> </div> <div>Statutory Accounts</div>	<div> </div> <div>Operational Taxes</div>	<div> </div> <div>Corporate Entity Management</div>	<div> </div> <div>Transactions and Advisory</div>	<div> </div> <div>Governance and Risk</div>
Core activities	CIT return	VAT / GST returns	Payroll compliance	Benchmarking	Cash Tax	Financial statements production	Stamp and Transactional Tax	Annual Report	ETR management	Tax Audits / Enquiries
	Tax Payments	Statistical reporting	Benefits reporting	Contracting	Year end and interim reporting	Audit management	Withholding Tax	Shareholders	Tax structuring	Electronic Audit / Digital Tax Authorities
	Local country filings	Managing VAT registrations	Leavers / joiners	Operational TP - Profitability Management	Forecasting and planning	National Bank Filings / statistical reporting	Capital Gains Tax	Boards	Mergers and Acquisitions	Controls Frameworks
	Country by Country Reporting		Global mobility	Operational TP - Cost Allocations	Uncertain tax positions	Record to report	Operational Tax Reporting	Regulation and compliance	Supply chain	Tax Strategy Management & Corporate Affairs
	Credits / Incentives		Executive remuneration	Transfer Pricing documentation				Subsidiaries		Workflow management & status monitoring
				Country by Country Reporting						



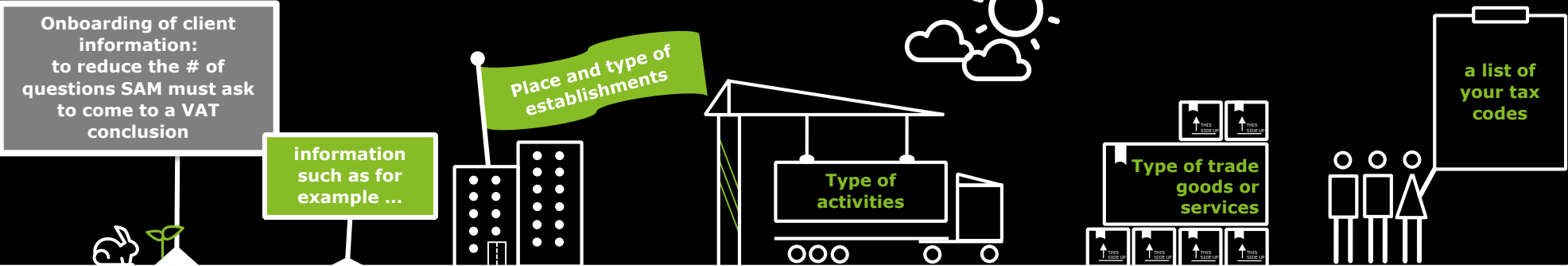
RPA sustainability\*

Low

High

# Learning to love the robot

## SAM your personal VAT assistant



Given these facts, yes you should register. Would you like some help with that?

using all info from onboarding

Hi I'm SAM, how can I help you?

SAM, should I register in France?

[www.sam.deloitte.com](http://www.sam.deloitte.com)

login

password

Activation of secure login



Training SAM

SAM is a team member you can count on!

I store all our conversation in a secure environment for 10 years.



I am connected with Deloitte experts so I can ask your Deloitte contact person(s) to contact you like me to do so

You will be informed when VAT rules have been changed that could impact older conversations

Click the [link](#) to see a demo

A large iceberg floats in a blue ocean under a blue sky with white clouds. The visible tip of the iceberg is on the left, while the much larger, submerged part extends across the bottom half of the image. The water is a deep blue, and the sky is a lighter blue with scattered white clouds.

# **Just uncovering the possibilities**

Artificial intelligence



PROTOTYPE

Click the [link](#) to see a demo



A person is captured mid-jump, leaping across a deep canyon. The scene is bathed in the warm, golden light of a setting or rising sun, creating a dramatic silhouette effect. The person's arms are outstretched forward, and their legs are bent in a powerful jumping motion. The canyon walls are rugged and layered, with the sun low on the horizon behind them, casting long shadows and highlighting the textures of the rock. The overall mood is one of adventure, risk-taking, and overcoming challenges.

# Get ready for the jump

Understand what the emerging  
technologies are

Focus on continuous learning environment

# Is your organization up for the challenge?

The digital wave disrupting whole industries is now making its way to the tax department.

The future of tax will see technology picking up the bulk of manual and repetitive work. The human workforce will represent a diverse cross-section of skills focused mainly on tax planning for the organization. The workplace will be more networked, devolved, mobile, team, and project-based, collaborative, real-time, and fluid than ever before.

In this future, tax professionals face new demands. Critical reasoning and thinking skills, the ability to connect the dots across multiple areas, and a deep understanding of the business will become as essential as the technical tax experience they worked so hard to acquire. Done well, however, this future has the potential to be the most engaging and fulfilling in the history of a much-respected profession






A silhouette of a person standing on a rock, looking up at a vast, starry night sky. The Milky Way is visible, creating a sense of looking towards the future or a distant horizon.

# Visualize your

- Tax Technology Roadmap
- Tax Operating Model
- Tax Control Framework



A person stands on a dark rock in the foreground, looking up at a vast, starry night sky. The Milky Way galaxy is visible, stretching across the frame. The overall mood is contemplative and aspirational.

“To accomplish great  
things we must dream as  
well as act.”

ANATOLE FRANCE

**CONNECT  
THROUGH  
LINKEDIN**

JONAS REINHOLDT ALBJERG





**Jonas Reinholdt Albjerg**  
Senior Manager, Tax Management Consulting

T +45 30 93 6272  
E [joalbjerg@deloitte.dk](mailto:joalbjerg@deloitte.dk)





Find det fulde program på  
[grabngo.deloitte.dk](http://grabngo.deloitte.dk)

Grab'n  
Go

# Appendix



# Appendix 1: VATbot SAM - The Chatbot for EU VAT advice

## Sample of the types of goods and services included in standard setting

Fruit	Tablet	On site supervision	Passenger transport:bus	Wine (gift)	Transport service of goods to a place outside EU (export of goods)
Cookies	Phone device	Security services	Passenger transport: taxi	Champagne (gift)	Transport of goods under a customs suspension regime (e.g. from customs warehouse to another customs warehouse)
Coffee	Phone subscription	Royalties	Passenger transport: train	Porto (gift)	Storage of goods for which a specific part of the property is assigned for the exclusive use of the customer AND lessee does not invoice additional handling services (e.g. (un)loading, packing)
Sugar	Computer devices	Speaker fees / presenter fees	Passenger transport: domestic flight	Alcoholic spirits (gift)	Storage of goods for which a specific part of the property is assigned for the exclusive use of the customer BUT lessee invoices additional handling services (e.g. (un)loading, packing)
Milk	Internet connection	Accountancy fees	Passenger transport: cross border flight	Restaurant services	Storage of goods for which no specific part of the property is assigned for the exclusive use of the customer
Soft drinks	Television	Advertising services	Hotel costs	Catering services for event focused on relationship building (not on direct sales)	Transshipment services (loading - unloading)
Bottled water	Television subscription	Call center services	Restaurant service (breakfast, dinner) invoiced by Hotel	Organization events (e.g.. room rental, hostesses,..) focused on relationship building (not on direct sales)	Supply of staff
Tea	Voice over IP	Insurance fees	Restaurant service	Business loges (including food and drinks)	Shoes (professional clothing)
Nuts	Tap water (water distribution)	Interest charges	Car (less than 30 days)	Promotional gadgets with company logo	Clothes (professional clothing)
Seeds	Electricity	Administrative bank charges	Parking costs	Promotional gadgets without company logo	
Chocolates	Gas	Postal services (letters)	Online course (education)	Samples	
Coffee sweetners (subsitute for sugar)	Plants (for decoration)	Postal services (packages)	Offline educational course not including catering	Products used for tasting	
Plasters	Flowers (for decoration)	Membership fee	Offline educational course including lunch/dinner/breakfast	Organization promotional events (e.g. room rental, hostesses,..)	
Band aids	Art objects (for decoration)	Data processing services	Take away meals	Catering costs promotional event	
Soup	Furniture	Fleet management	Restaurant (social event - team building)	Stand location at a fair or exhibition site together with other related services (i.e. Cable laying, insurance and advertising,...)	
Minute soup	Toilet paper	Graphic design services	Catering services on employee event (Saint Nicolas, New year, retirement party, Christmas party, ..)	Stand location at a fair or exhibition site with limited extra services	
Registered medicines (for headache, nausea)	Hand soap	Translation services	Food (ingredients) for employee event	Access ticket to a trade fair	
Paper journals and magazines (only on paper)	Real estate	IT services	Alcohol for employee event	Bicycles	
Paper journals and magazines (also accessible in electronic format)	Immovable good	Sponsoring (without something in return)	Other costs employee event	Passenger cars	
Electronic journals and papers	Alarm system	Sponsoring (with some sort of advertising in return)	Meal vouchers	Fuel for passenger car	
Paper books	Telecom network	Consulting services (not related to real estate)	Catering services company restaurant	Light trucks	
Electronic books	Fixed furniture	Management fees from private individual	Access ticket theater (gift)	Fuel for light truck	
Printed business cards	Kitchen	Management fees from legal entity	Access ticket cinema (gift)	Trucks	
Printed commercial brochures	External rollers or shutters	Emission rights	Access ticket musea (gift)	Fuel for truck	
Printed calendars	Internal rollers or shutters	Software license	Access sport match (gift)	Scrap	
Print paper	Airconditioning	Streaming services	Access concert (gift)	Machine (permanently fixed to the ground)	
Small office equipment (pens,paperclips,..)	Heating	Payroll services	Tabac (gift)	Machine (not permanently fixed to the ground)	
Office equipment hardware	Sanitary facilities	Website hosting	Plants (gift)	Work on movable goods (processing, tooling services,...)	
Office equipment hardware	Engineering services (related to real estate)	Fines and penalties	Flowers (gift)	Transport of goods	
Coffee machine	Architect services (related to a builing)	Indemnifications	Alcoholic spirits (gin, wodka,..) (gift)	Transport service of goods from a place outside EU (import of goods)	

Starting from the EU VAT Directive we determined for what type of supplies deviations from the standard are possible (reduced rates, exemptions, other place of supply rules,...).

If SAM does not know an object yet (e.g. a handbag) SAM will ask you whether it is a good or a service and will analyze further from there.



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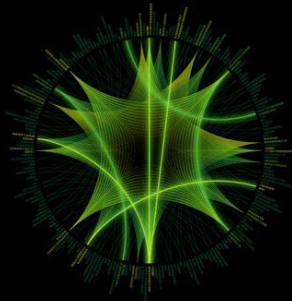
**Driv din virksomhed på data,  
og forløs det fulde potentiale**

*Grab'n  
Go*



“The way you collect, manage and use information will determine whether you become a winner or a loser.”

Bill Gates



Change and growth in business and society are driven by insight, and innovation is fuelled by data.

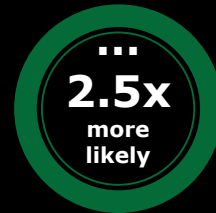
The ability to transform data and information into insight and sound decision-making is a key differentiator.

Data in itself has become an asset that threatens to disrupt current business models while at the same time allowing for innovation and future growth.

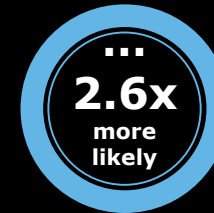
# Why are leading companies in all industries investing in analytics?

Recent research shows that companies that are leaders in applying analytics to growth significantly surpass analytics laggards in gross margins, operating margins and profit margins

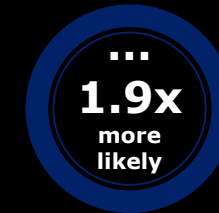
## Companies being analytics leaders are ...



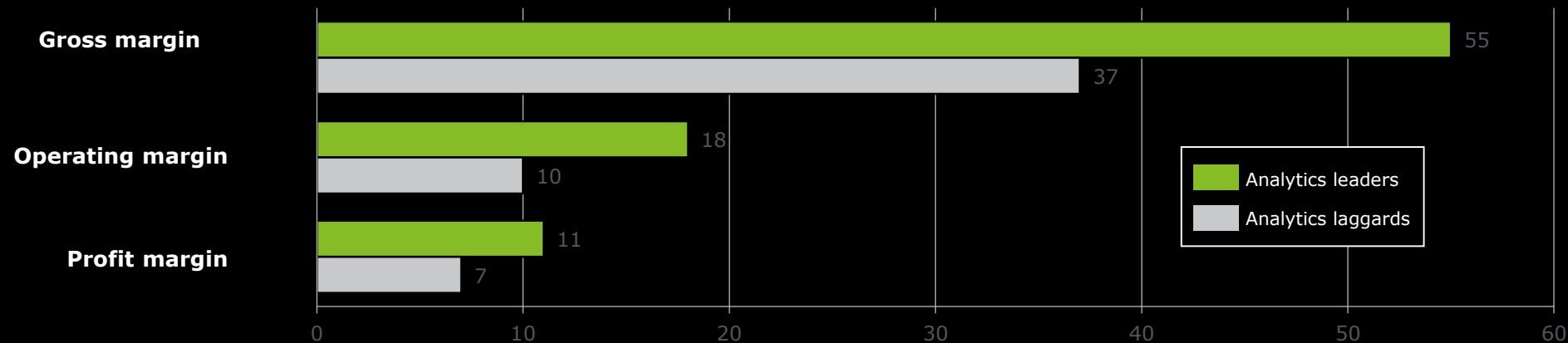
to harness **real-time data** and analytics to deliver **personalised customer experiences**



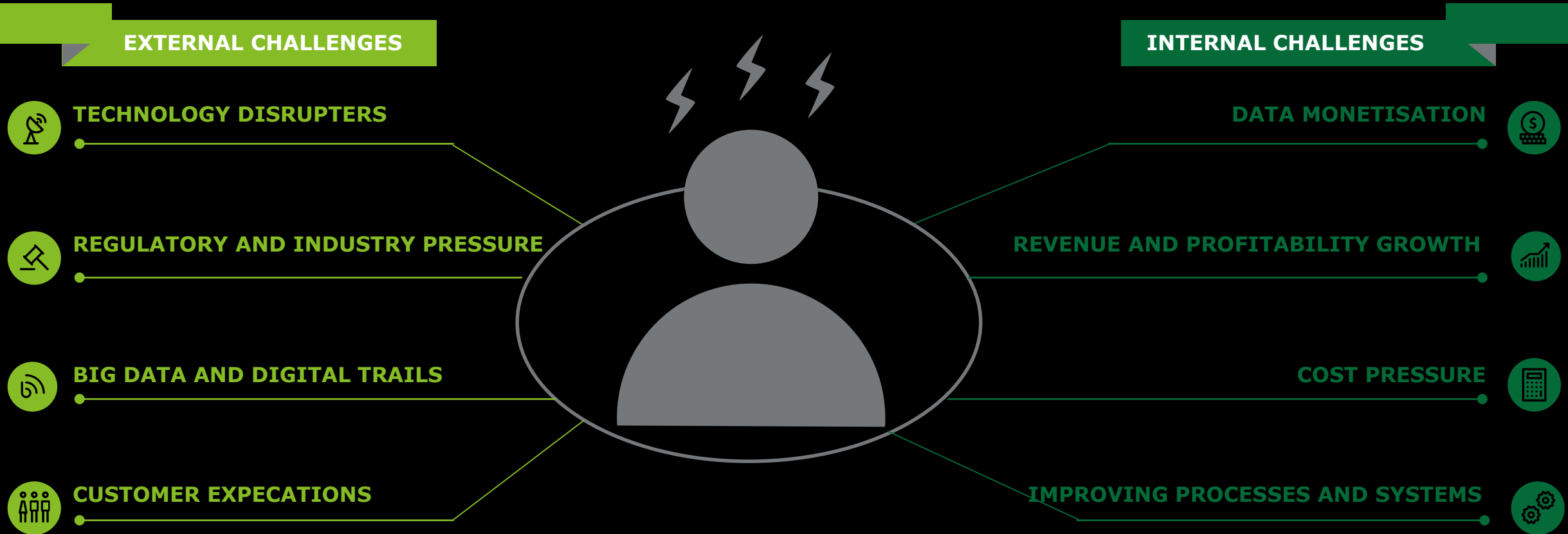
to use analytics to **prescribe business actions** to limit customer churn



to use data to benchmark customers and advise them on **how to realise greater value**



Technology disruptors, combined with regulation and industry pressures, are presenting new challenges for all businesses







**Whenever there  
is a revolution  
in machine  
learning chips...**

**...there is  
ALWAYS a  
revolution in  
machine learning.**



# Insight-driven organisation

An organisational mindset  
and a deeply rooted belief  
that data is a prerequisite  
and foundation for success



"To master and leverage data is the  
key to getting more healthcare for  
money ...  
... if we do not do this, we  
will not reach our goals."

Head of healthcare  
and hospitals for a  
Danish region



# The insight-driven organisation – is about asking new questions

**How can I make analyses faster, better and cheaper?**

**How can I turn all my data into actionable insight?**

**How can I tackle the most complex business problems using data?**

**If I do not have the data, how can I get it?**

**How can I use insight to automate and run my business?**

**How does data become part of our organisation's DNA?**

**How can we rethink what we are doing?**

Outlook	Non-IDO	IDO
Past	<i>What has happened?</i>	<i>Why and how did it happen?</i>
Present	<i>What is currently happening?</i>	<i>What is the next best action?</i>
Future	<i>What is going to happen?</i>	<i>What does simulation tell us about the options, the pros and cons?</i>

Article

April 11, 2018

## Drowning in data, but starving for insights

Starting the digital supply network journey with legacy systems

John Ferraloli

Rick Burke



Implementing a digital supply network (DSN) doesn't always mean that companies have to rip out and replace legacy systems. Instead, they can bring together and organize the data already existing in these systems to generate valuable insights that drive the DSN.

# IDO is about data pervasiveness



**Data in products**



**Data as products**



**Performance management**

...



**Strategy**



**Marketing and client dialogue**



**Manufacturing**

## Innovation

- Business dev.
- Business models
- Data in products
- Data as products

## Tools

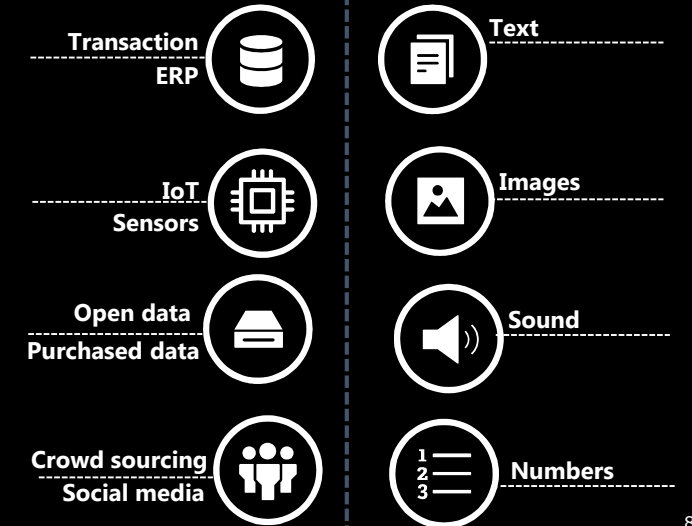
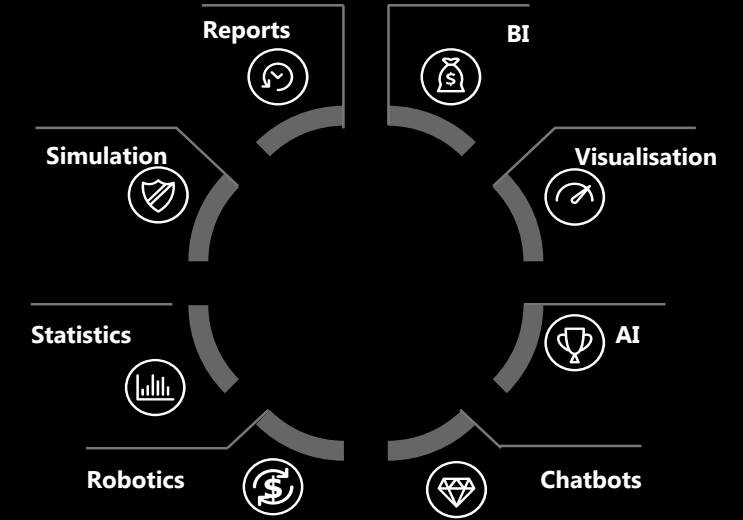
All types of tools and methods

## Data

All kinds of data  
All kinds of data sources

## Processes

From strategic planning to operational execution  
About the process  
In the process



Lufthansa leverages a variety of data and tools to infuse actionable insight into its customer journey process

## LUFTHANSA'S CUSTOMER JOURNEY

Identify key moments and cross journey needs and enable personalized interactions across digital & physical channels



# Data supporting the business strategy and being the business strategy



**Our aspiration is to create a competitive edge for <Danish company> by growing an insight-driven business system fuelled by data and information**

This means that we will:

- Grow a culture where insight focus is an integrated part of everything we do and all the initiatives we take
- Build an effective and efficient solution delivery capability that will encourage the organisation to ask for more
- Challenge and inspire the organisation at all levels on how to leverage analytics and new technological opportunities to take ideas to the next level
- Support cost leadership as a lifestyle by democratising data and information to optimise processes
- Bring data and insight to the hands of our users so that they have the right information at the right place at the right time.

# Danish Customs has made a new business strategy

## One of the most ambitious IDO bets in Denmark

### Hvor skal Told spille? – Kunder og produkter

**Vores strategiske valg er motiveret af at skabe et datadrevet told baseret på dataintegration, et nyt kontrolparadigme, digitale løsninger og øget selvbetjening**

1

**Et datadrevet told**

2

Fokus på de 20 pct. af virksomheder, som driver 80 pct. af volumen

3

Nyt kontrolparadigme: Digital forebyggende kontrol

4

Digitale løsninger til optimering af nøgleprocesser

5

Selvbetjeningsløsninger

6

Databaseret risikostyring ift. illegale varer

VÆSENTLIGE STRATEGISKE TILVALG


- Told skal være **datadrevet i alt hvad vi gør**. Det indebærer, at vi digitaliserer mest mulig interaktion med kunderne – både i ift. en god kundeoplevelse og effektiv kontrol. Data skal drive vores beslutninger.
- alle væsentlige kontrol, risikostyring og ressourcer**

RATIONALE FOR TILVALG...

- Øget evidens i strategiske og operative beslutninger.
- Øget effektivitet og reduceret omkostninger.
- Automatiske databaserede kontrol...


HVILKE FRAVALG FORETAGES?

**Sammenfatning**  
**Dette er strategien for Told på én side**

**VORES AMBITION**

Told skaber tryghed for borgere, sikrer korrekt toldprovenu ved transport af varer gennem smidige toldprocesser.

**Det sker ved optimal anvendelse af data samt fokus på effekt og compliance.**


**HVOR VI VIL SPILLE**

**Kundesegmenter** - Særligt fokus på virksomheder og speditorer (deklarerende), der kan give os data til bedre service og styrke grundlaget for kontrol.


**Produkter og services** - Fokus på digitale løsninger hvor det er muligt at automatisere og integrere data. Samarbejdet med told giver større indsigt i værdikæden som vi kan udnytte til bedre service og styrke grundlaget for kontrol.

**Værdikæde** - Integration med virksomheder og speditorer giver større indsigt i værdikæden som vi kan udnytte til bedre service og styrke grundlaget for kontrol.

**Geografi** - Mobil eller fleksibel kontrol. Vi kan finde teknologiske løsninger, samt mobil fysisk tilstedeværelse i områder med særlig risiko for illegal vareimport.


**HVORDAN VI VINDER**

Vi laver for de vigtigste produkter og tjenester, som har høj volumen i import og eksport, en digital kontrol og selvbetjening. Vi kan således give borgere og virksomheder en hurtig og effektiv kontrol og selvbetjening.

**KAPABILITETER**

Vi skal have:

1. Dataindsigt
2. Dataindsigt
3. Dataindsigt
4. Service
5. Kontrol
6. Flexibilitet

**LEDELSES- OG STYRINGSMEKANISMER**

Til at realisere strategien skal vi have:

1. Styring af aktiviteter
2. Kontrol af aktiviteter
3. Indsigt i aktiviteter
4. Synergi
5. Prognose
6. Performance
7. Måling af generering af ledelsesinformation af høj kvalitet

**DETALJERING UDESTÅR**

**Page 2**

Our strategic choice is motivated by the creation of a data-driven customs

**From the one-page summary**

This will be realised through optimal leverage of data ...





Becoming an IDO is a C-level bet

Data mastery needs top-down leadership; it is an inherently system-driven concept that requires coordination and investment across the entire organisation

ROI = risk of ignoring

It is about willingness and ability



*datafy* every exchange,  
*software* every activity,  
automate all operational decisions

# Maturity

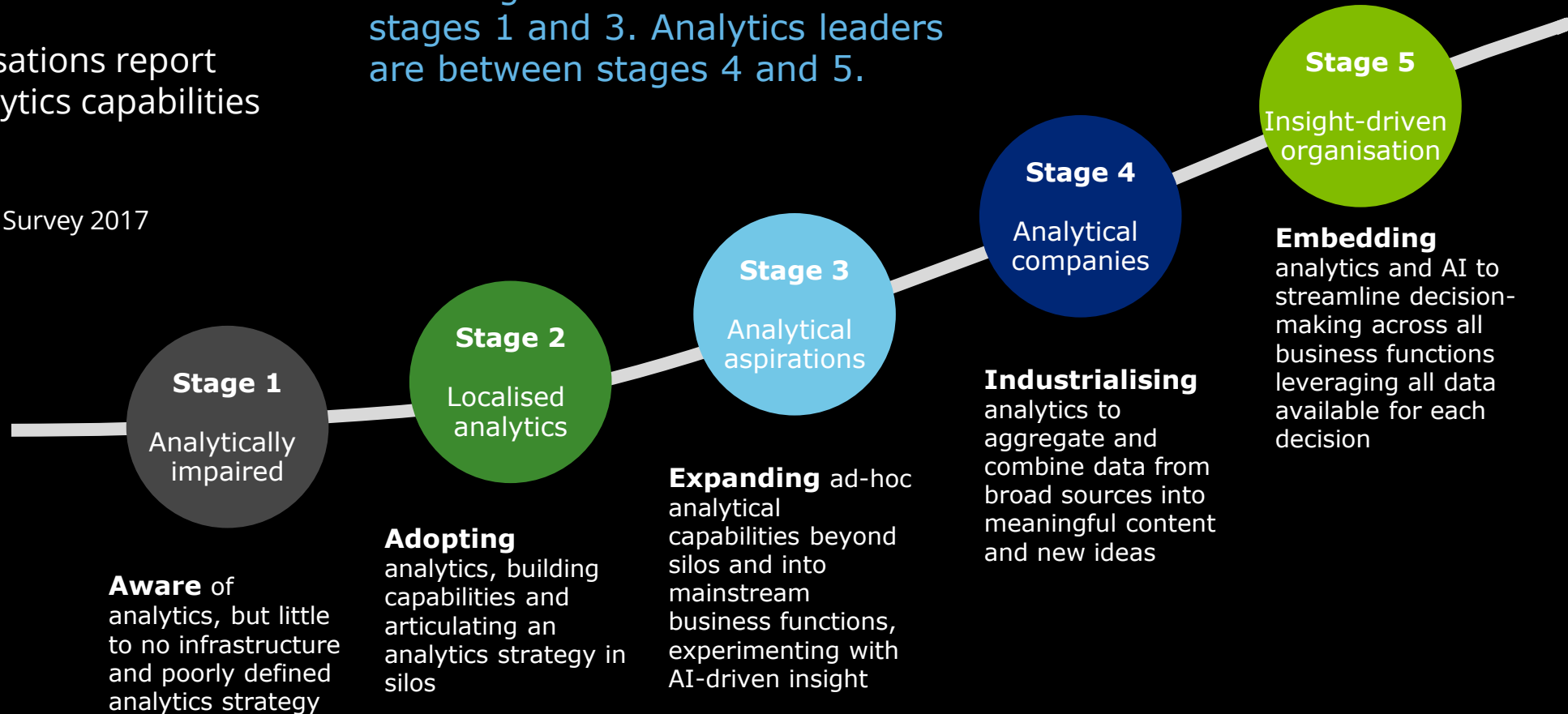
Becoming an IDO is a journey so do not wait; if you do not start soon, you will not get there in time

**75%**

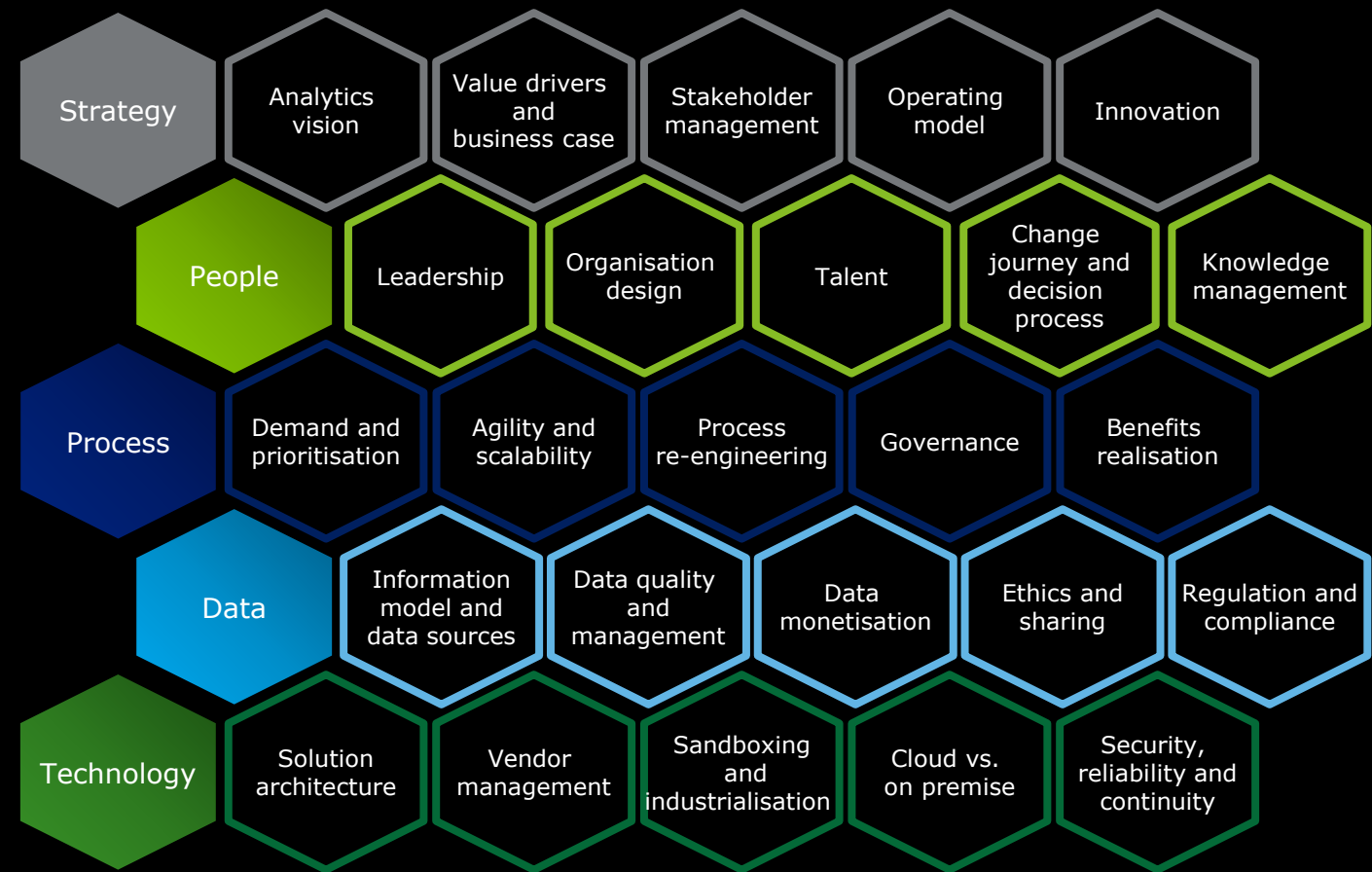
of organisations report their analytics capabilities as siloed.

Deloitte IDO Survey 2017

Most organisations are between stages 1 and 3. Analytics leaders are between stages 4 and 5.



# IDO framework



# People and organisations

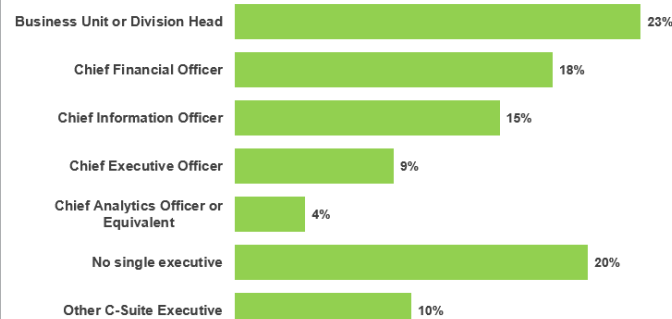


***The age of with***

**The role of the CFO/CxO**

**Attract, organise and retain talent**

A recent survey, executives responsible for data analytics in North America and the United Kingdom, answered the question, "Who oversees analytics initiatives?"



**People**

**+50%**

of top executives defined organisational restructuring and resistance to change as their top-two obstacles in relation to digital transformation ...

**40%**

... and almost 40 percent cited the lack of key digital skills.

**41%**

of organisations do not believe that their culture supports digital adoption.

Sources:

- 1) <https://hbr.org/resources/pdfs/comm/cognizant/Closing.The.Gap.pdf>
- 2) <https://cmo.deloitte.com/x/en/pages/articles/facebook-deloitte-digital-marketing-organizations-study.html?nc=1>



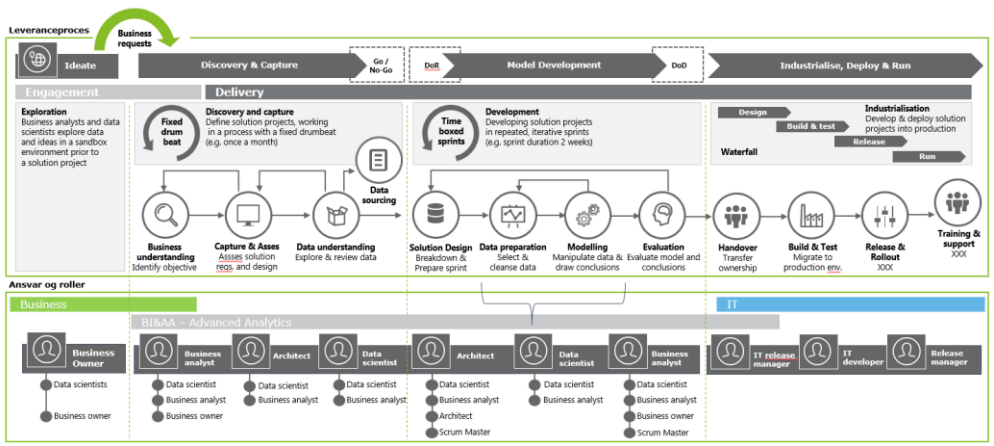
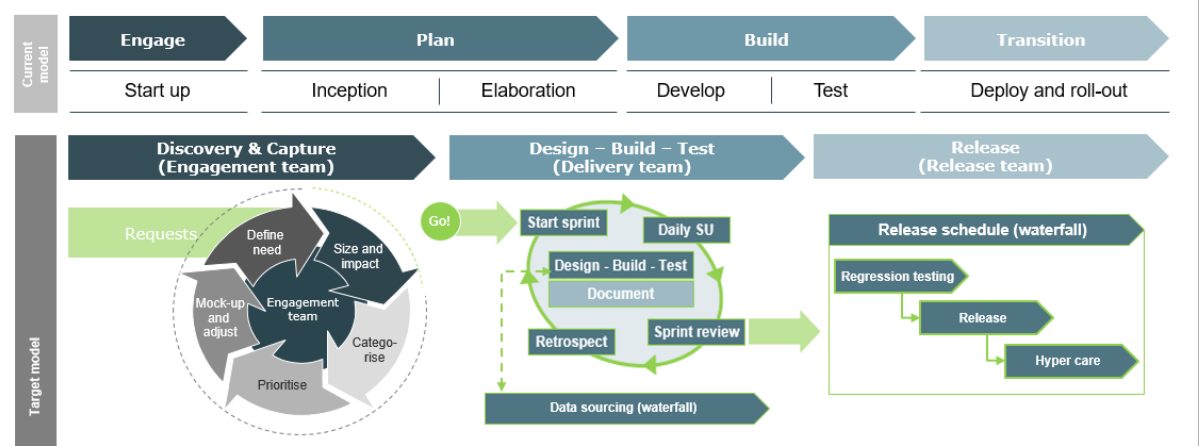
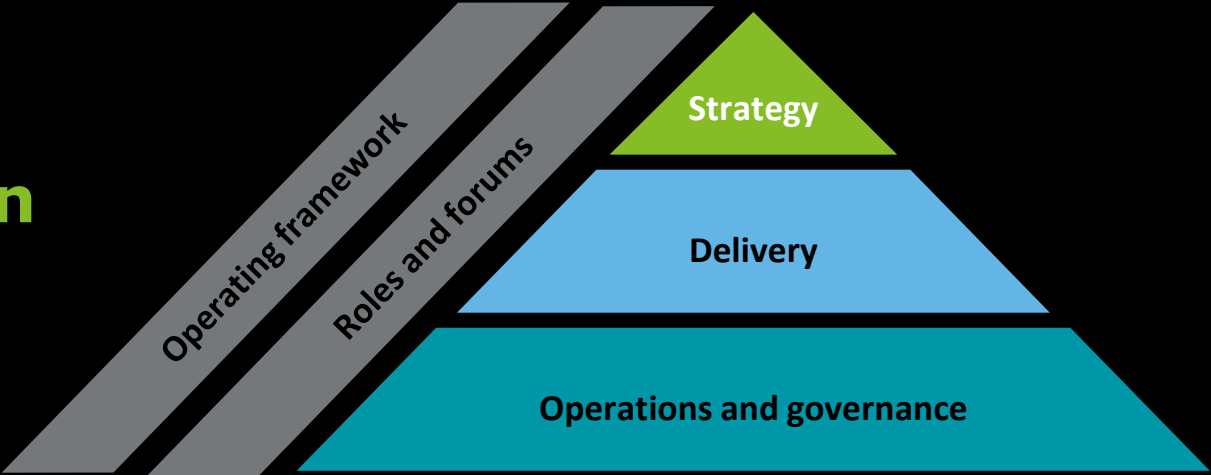
# Process and governance



Imagine – engage and innovate

Deliver – plan, build and transition

Run – leverage and govern



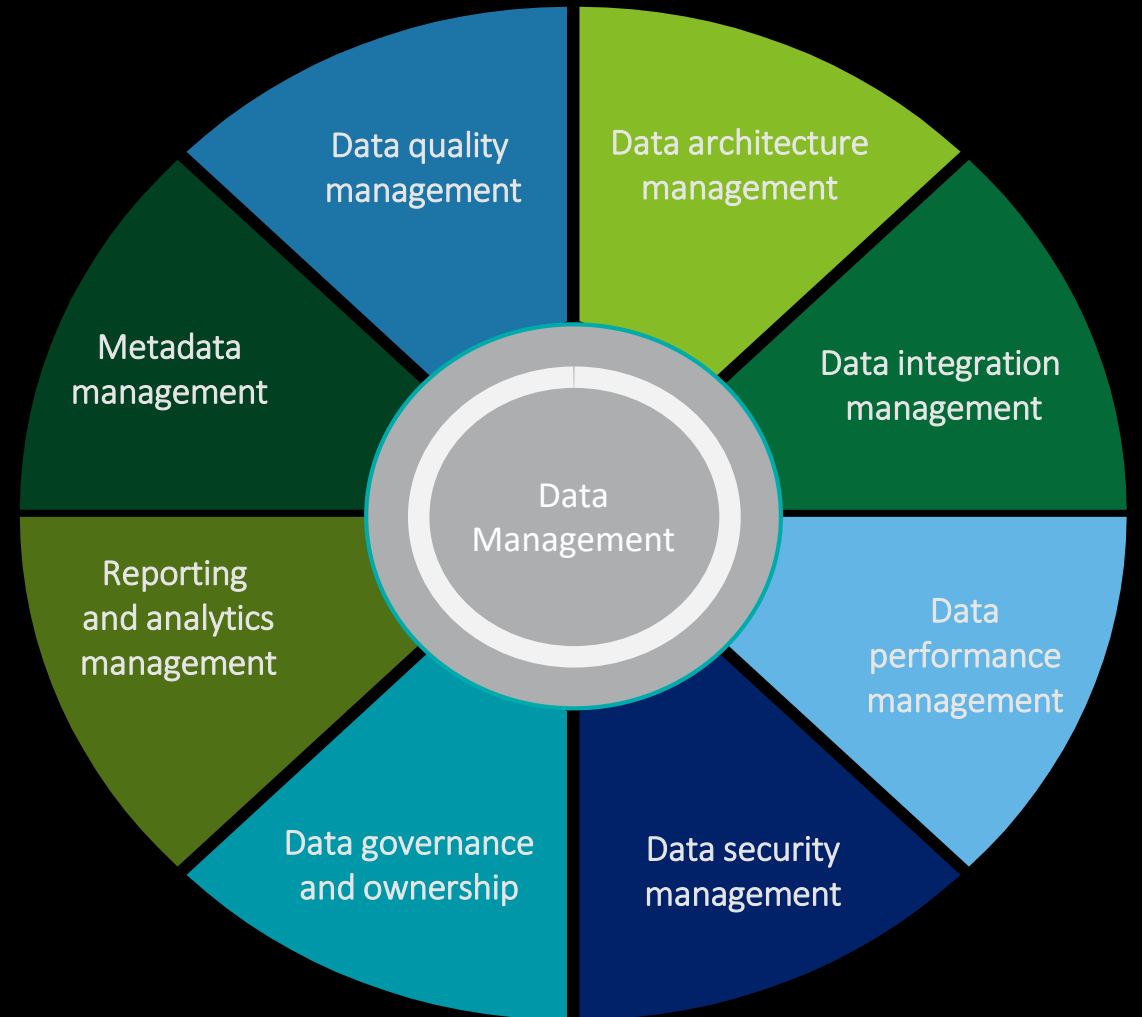
Data



**Manage to leverage**

**Data is more than master data**

**Get started ... now!**



# Technology

**Platform modernisation**  
**Toolbox and devices**  
**Cloud and data architecture**  
**Cyber and security**

Technology

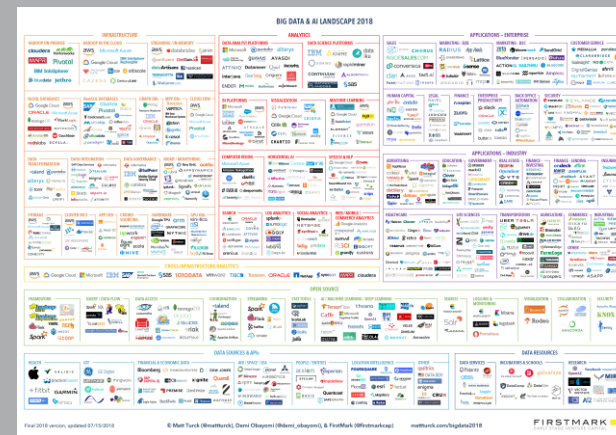
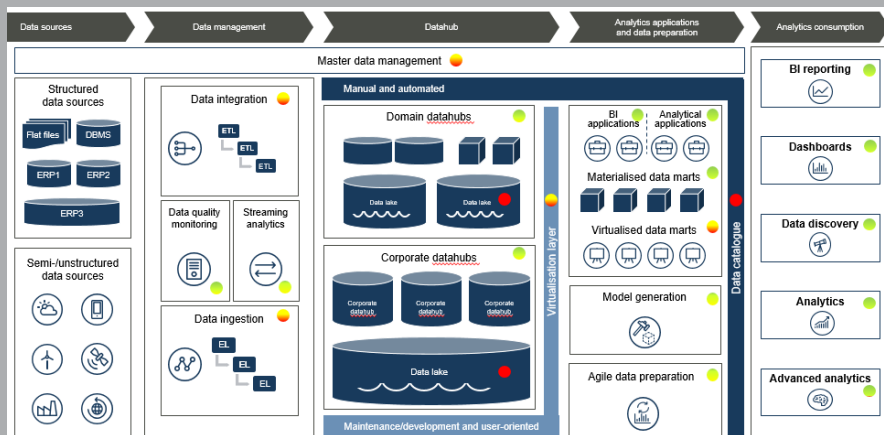
**Cost**  
**Speed**  
**Simplicity**  
**Flexibility**

81%

of companies with more than 1,000 employees employ or intend to employ a multi-cloud strategy.

Source:

<https://www.rightscale.com/learn/cloud-strategy/cloud-computing-trends>



# So now what?

What happens if we do nothing?

How can we leverage data?

What about our platform?

How is data linked to our strategy?

Do we start the IDO journey now?

Who should I talk to?







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