

8 December 2016

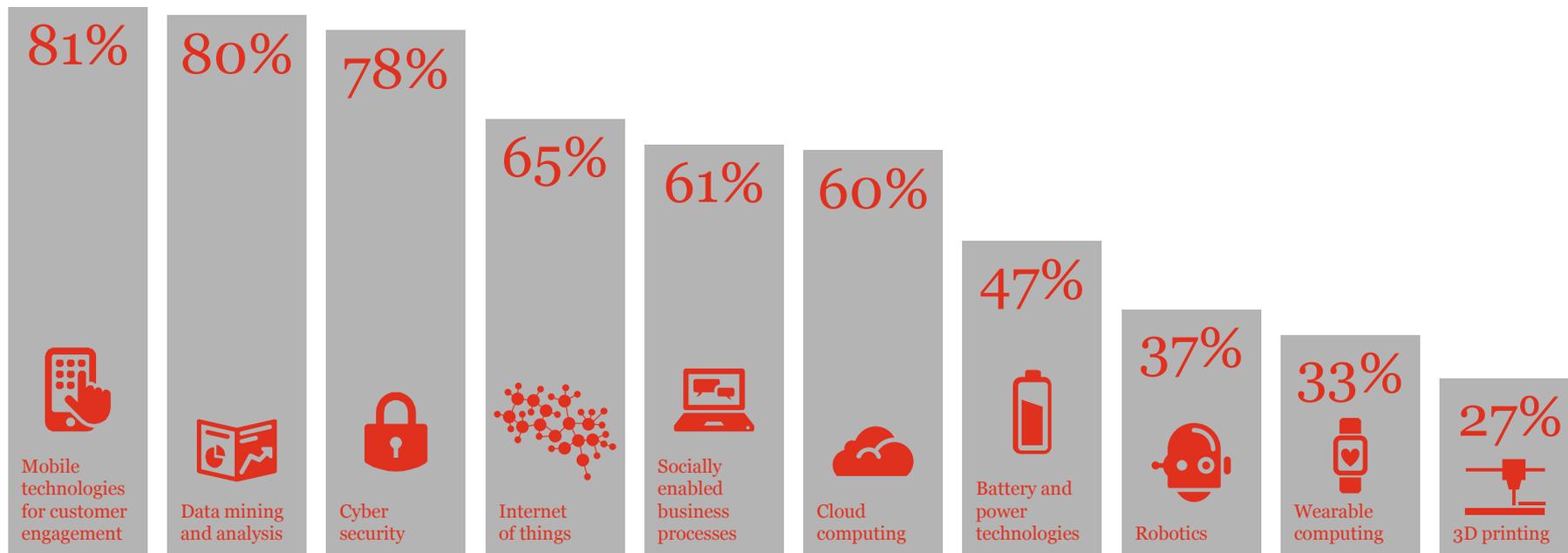
Private Banking : Switzerland 2016

Data as a Differentiator



www.pwc.com/digital
Strictly private and confidential

The strategic importance of digital technologies



Source: 1322 CEOs interviewed for PwC's 18 Annual Global CEO Survey (www.pwc.com/ceosurvey)

Content / Topics

- Data capabilities that you need to enable your digitalization program
- Why data is key in the regulatory environment - the impact of GDPR
- Case studies: conduct risk, single client view, customer insights, advanced methods

01

Data capabilities that you need to enable your digitalization program

What Financial Institutions can do with Data Analytics



Increase revenues and profitability

by providing improved insights for investment decisions and allowing the business to respond more quickly to market, customer, and regulatory shifts.



Improve compliance and controls

by providing insight into acceptable risk levels, enhancing fraud identification, and running tests on large accounting transactions to improve the second and third line of defence.



Boost operating excellence

by tightening inventory management, analyzing supply chain data to ensure equipment is working at full capacity, and identifying better cost alignment with the business strategy.



Enhance financial reporting and communication

by combining financial forecasting with unstructured real-time social analytics and through social listening tools that capture stakeholder sentiments following financial results.

Data Capabilities that you need

Data is at the heart of everything you do. To use data as a real differentiator significant experience in all disciplines of data from collection, cleansing and management through to building analytical algorithms and visualisation tools is needed.

However, the real power of data lies in creating actionable insight, and applying this insight to transform the organization.

At PwC we believe that effective data and analytics comprises four key components, all underpinned by PwC's industry expertise and experience.

Manage data

Collecting, consolidating and cleaning relevant data.



Perform analytics

Applying intelligent techniques to uncover insight from the relevant data.



Create visualisation

Converting the data into a more comprehensible and user-friendly format.



Harness insight

Applying the insight into more effective decision-making.



Required Experience when using Data as a Differentiator

The Four Core Competencies of the Data Scientist



Math & Statistics

- Machine Learning
 - Supervised: decision trees, random forests, logistic regression
 - Unsupervised: clustering, dimensionality reduction
- Statistical modeling & computational statistics
- System Dynamics, Discrete Events & Agent-based models
- Statistical inference
- Optimization: gradient descent and variants



Programming & Database

- Computer Science fundamentals
- Scripting language e.g. Python
- Statistical computer packages e.g. R
- Databases: SQL and NoSQL
- Relational algebra
- Parallel databases and query processing
- MapReduce concepts
- Hadoop and Hive/Pig
- Custom reducers



Communication & Visualization

- Able to engage with senior management
- Story telling skills
- Translate data-driven insights into decisions and actions
- Visual art design
- R packages like ggplot or lattice
- Knowledge of any visualization tools



Domain Knowledge & Soft Skills

- Passionate about the business and industries
- Curious about data
- Influence without authority
- Problem solver
- Strategic, proactive, creative, innovative and collaborative
- Connects to clients and teams

02

General Data Protection Regulation - Update

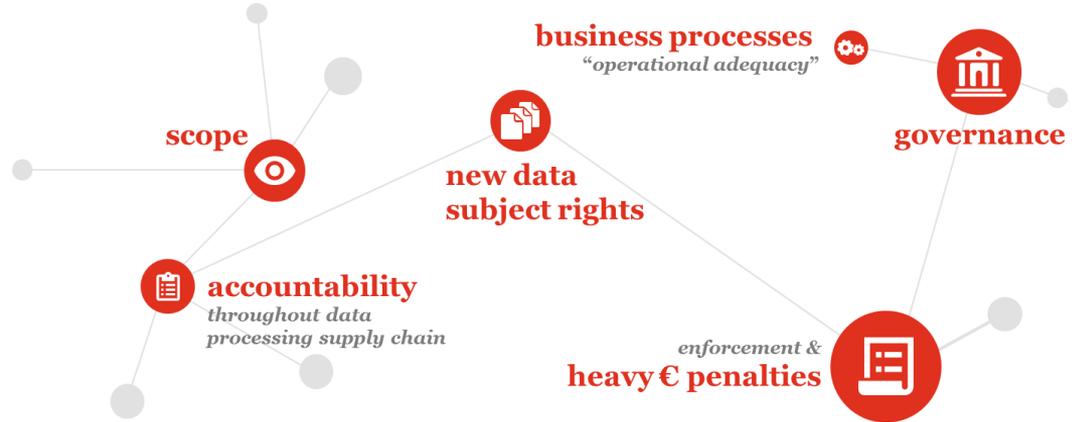
EU GDPR features

new regulation

impacts almost all clients,
business-wide

in EU and beyond

in force from 25
May 2018



GDPR: What does a “good” approach to data protection look like?

The real risk issues that are connected to the GDPR are how to prioritize compliance activity and how to build appropriate structures for compliance. Key elements that the Regulators will expect from the involved entities are:

✓ *You have an organisational view on what Privacy means to you.*

✓ *You have a clear understanding of what data is held, why you have it, where it is and who has access to it.*

✓ *You understand and manage the risks introduced to the data by third parties.*

✓ *Your Privacy Model is designed with agility in mind given the ever changing Privacy landscape.*

✓ *You understand how Privacy and Data Protection fit into your overall business strategy.*

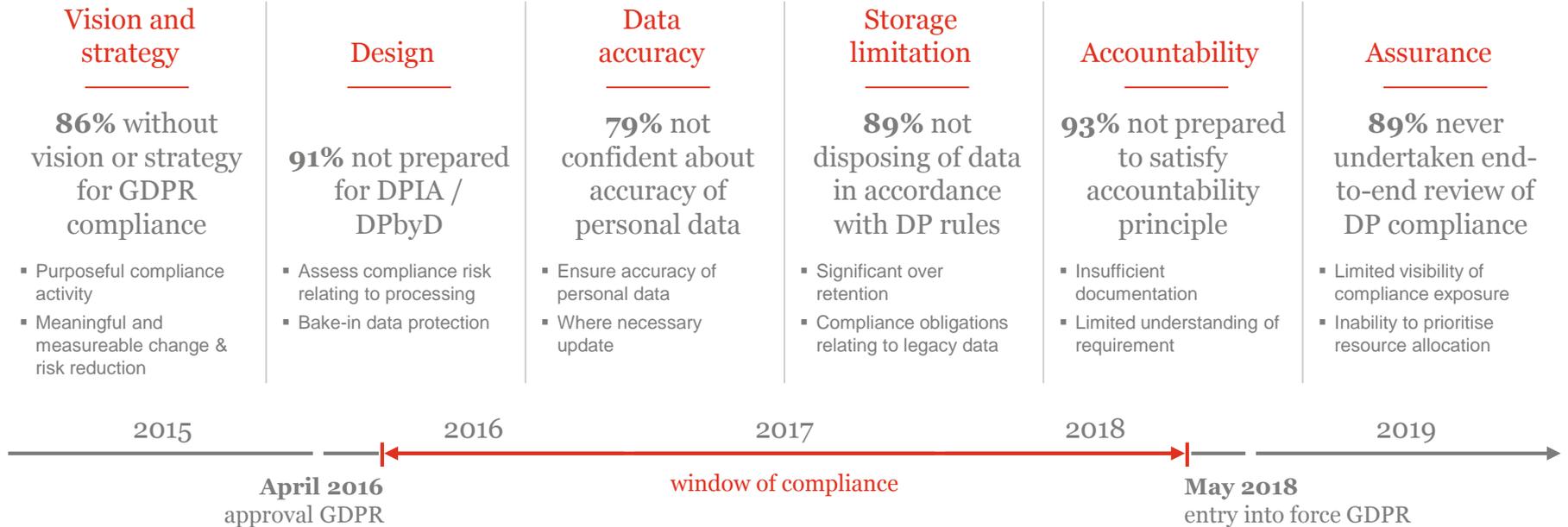
✓ *You know how well you are protecting the data, and where you are not.*

✓ *You are using the data for the purpose that you have committed to and nothing more.*

✓ *You help to empower individuals, so they can control the use of their data better.*



Why is now the time to talk about EU GDPR?



*DPIA – Data Protection Impact Assessment --- DPbyD - Data Protection by Design

New regulations – it's all about Data!

EU-GDPR is about **Personal Data**

Swiss FINMA 2008/21 annexe 3 is about **Client Data**

EU/US Privacy Shield is about **Personal Data**

NIS Directive relates to both the **commercial data** of legal entities and individuals, that is, 'natural persons'

... → It's all about Data ← ...

03

Case Studies

Data Analytics as a Differentiator

Case Studies – Data & Analytics

PwC is happy to share its Data & Analytics Case Studies upon request.

Your contact



Christian Westermann

Partner, Data & Analytics,
PwC Digital Services

Birchstrasse 160
8050 Zurich-Oerlikon

Tel.: +41 58 792 2797
Mobile: +41 79 779 8561
E-Mail: christian.westermann@ch.pwc.com

Thank you!

© 2016 PwC. All rights reserved. Not for further distribution without the permission of PwC. "PwC" refers to the network of member firms of PricewaterhouseCoopers International Limited (PwCIL), or, as the context requires, individual member firms of the PwC network. Each member firm is a separate legal entity and does not act as agent of PwCIL or any other member firm. PwCIL does not provide any services to clients. PwCIL is not responsible or liable for the acts or omissions of any of its member firms nor can it control the exercise of their professional judgment or bind them in any way. No member firm is responsible or liable for the acts or omissions of any other member firm nor can it control the exercise of another member firm's professional judgment or bind another member firm or PwCIL in any way.