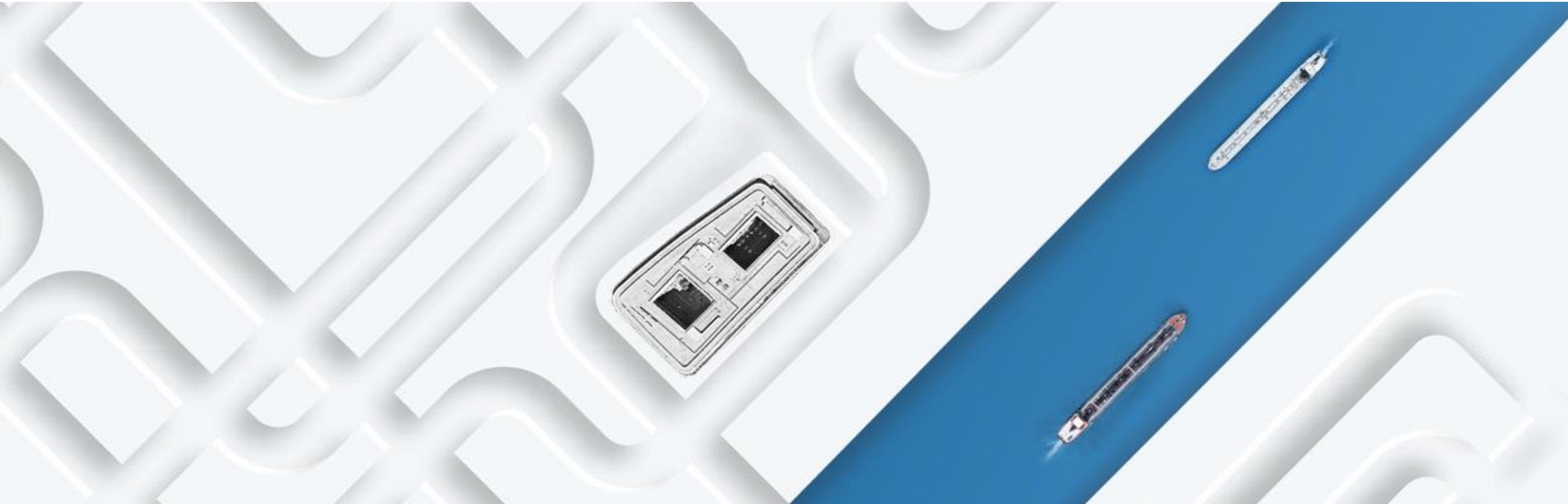


# Why invest in cybersecurity?

The economic perspective



# Content

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## Cybercrime – An overview

# What is “cyber crime“?

## Narrow definition

Crimes committed against the internet, data networks, information and communication technology systems and their data

## Wide definition

Crimes committed via information and communication technology

## Cyber espionage

Theft of relevant company data and intellectual property

# As easy as can be?

Cyber attacks can cause physical damage in connected plants.

Technology

## Hack attack causes 'massive damage' at steel works

22 December 2014 | Technology

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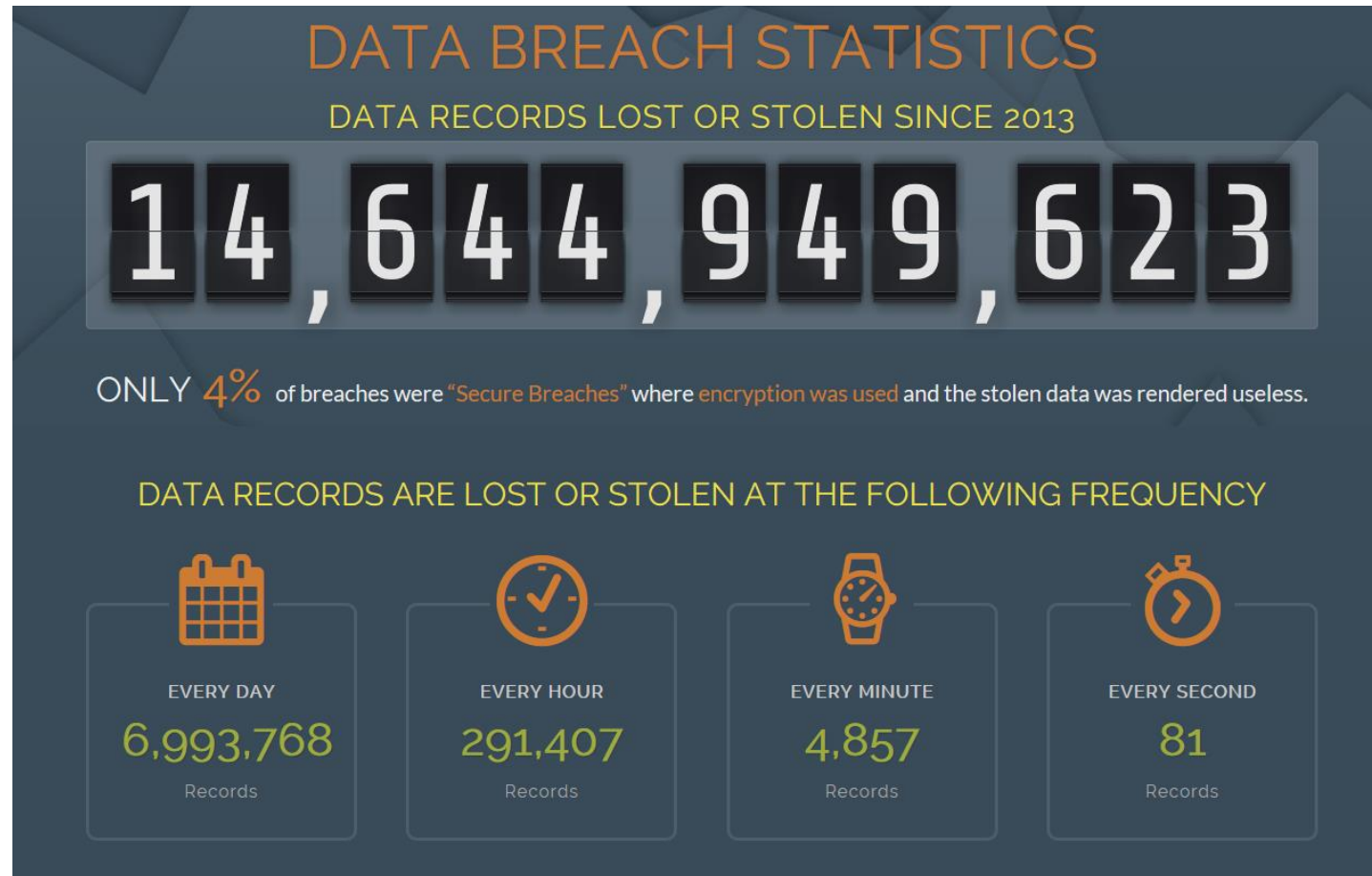


Source: BBC NEWS, 2014



# Data breaches worldwide since 2013

As of 26-09-2018



Source: breachlevelindex.com, 2018

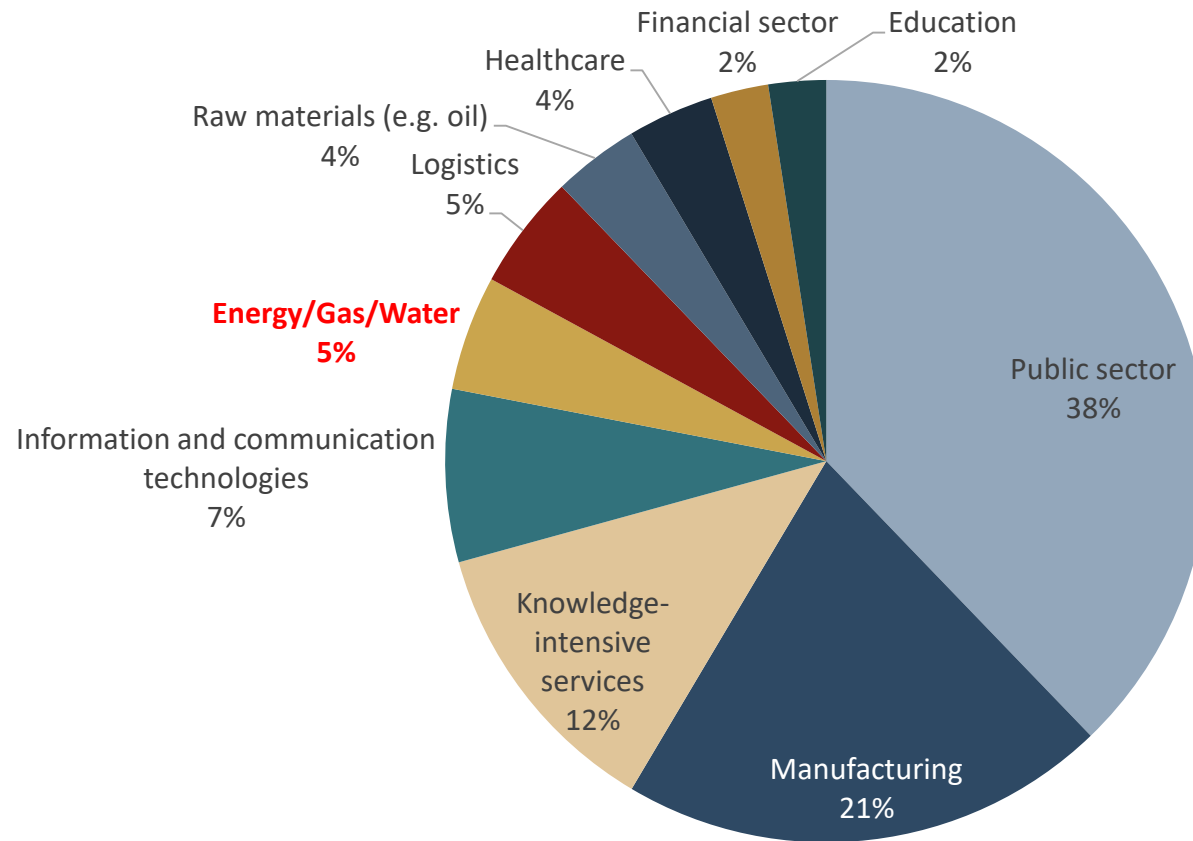
# 2

## Costs of cybercrime



# Cyber espionage worldwide

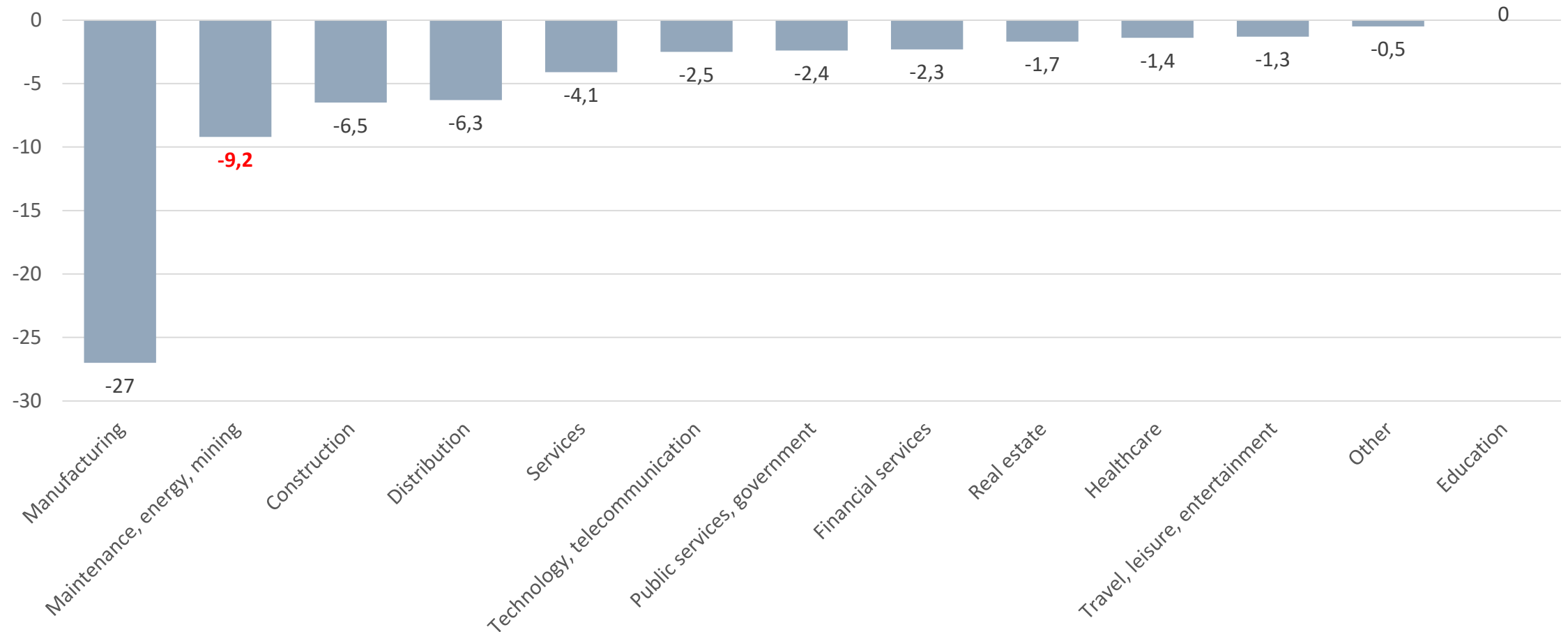
Share of worldwide attacks in percent, 2016



Source: Verizon DBIR, 2016

# Attacks are most costly for manufacturing

Estimated loss of revenue due to cyber attacks in the past 5 years, in billion Euro, 2016



Source: Cebr, 2016

# Costs of cyber espionage for companies

Companies do not know the costs or keep them secret.

## Direct costs

Value of stolen intellectual property

Remedying the damages of the incident

Consequences of the incident, e.g. change of security protocols, education of staff

## Indirect costs

Loss of revenue

Damages to reputation and brand

Opportunity costs

3

Significance for the energy  
sector

# Transition of the energy system

From fossil to renewable



Image source: Fotolia

# Implications of the energy transition

More volatility

More interventions

More flexibility

# More access points



Image Source: iStock – Alex L

# Value of lost load?







Source: DuMont

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