

## Information and Communications Technologies (ICT)

2017 Market Data

May 2018

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## **4 MARKET SIZE BY SUBSECTORS**

Sizes of subcategories including Hardware, Software, IT Services; Communications Equipment and Telecommunications services

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Exports, employment, types and value of incentives utilized, factors driving growth, major issues faced in the sector, investment and impact areas, etc.

# Project stakeholders

Project Consultant

**Deloitte.**

Project Data Providers



T.C BİLİM, SANAYİ VE  
TEKNOLOJİ BAKANLIĞI



BİLGİ  
TEKNOLOJİLERİ  
VE İLETİŞİM  
KURUMU

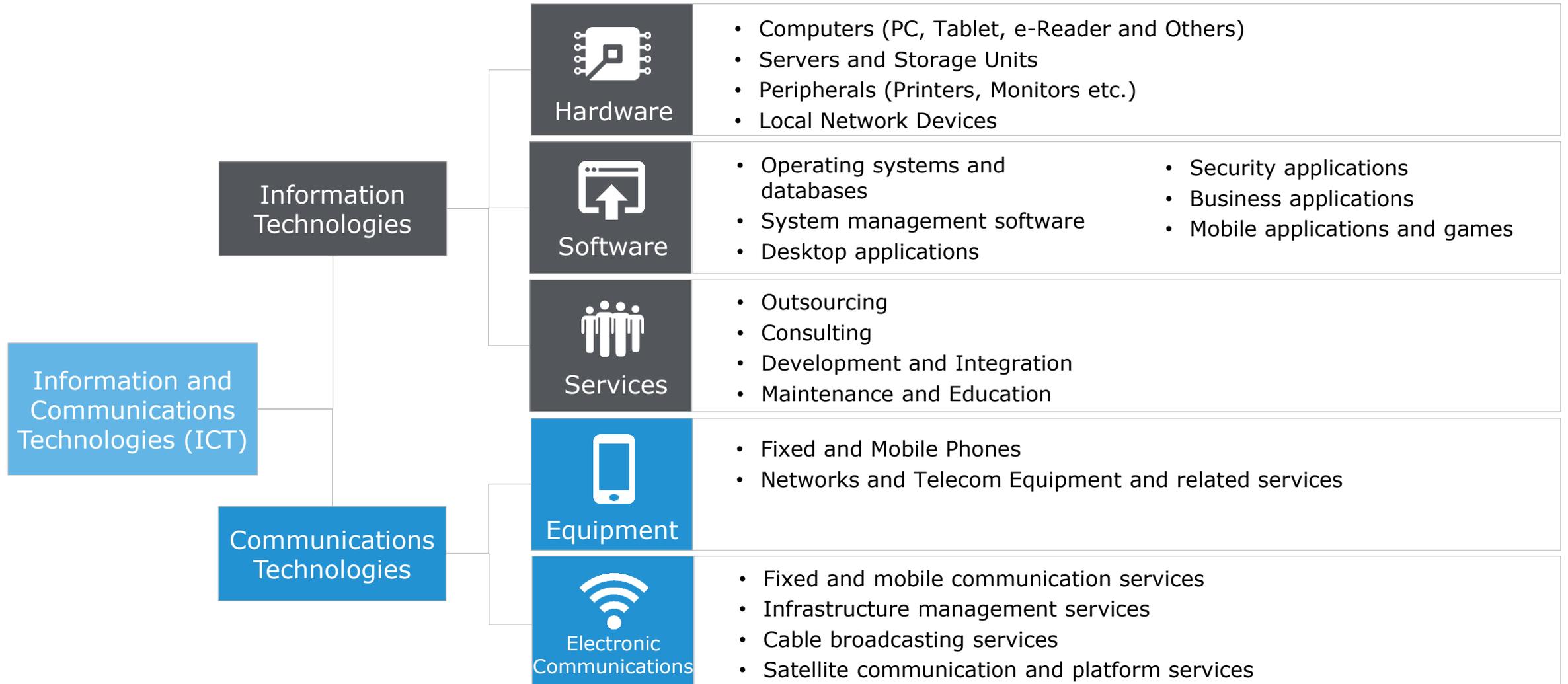
**SaSaD**

Savunma ve Havacılık Sanayii  
İmalatçılar Derneği

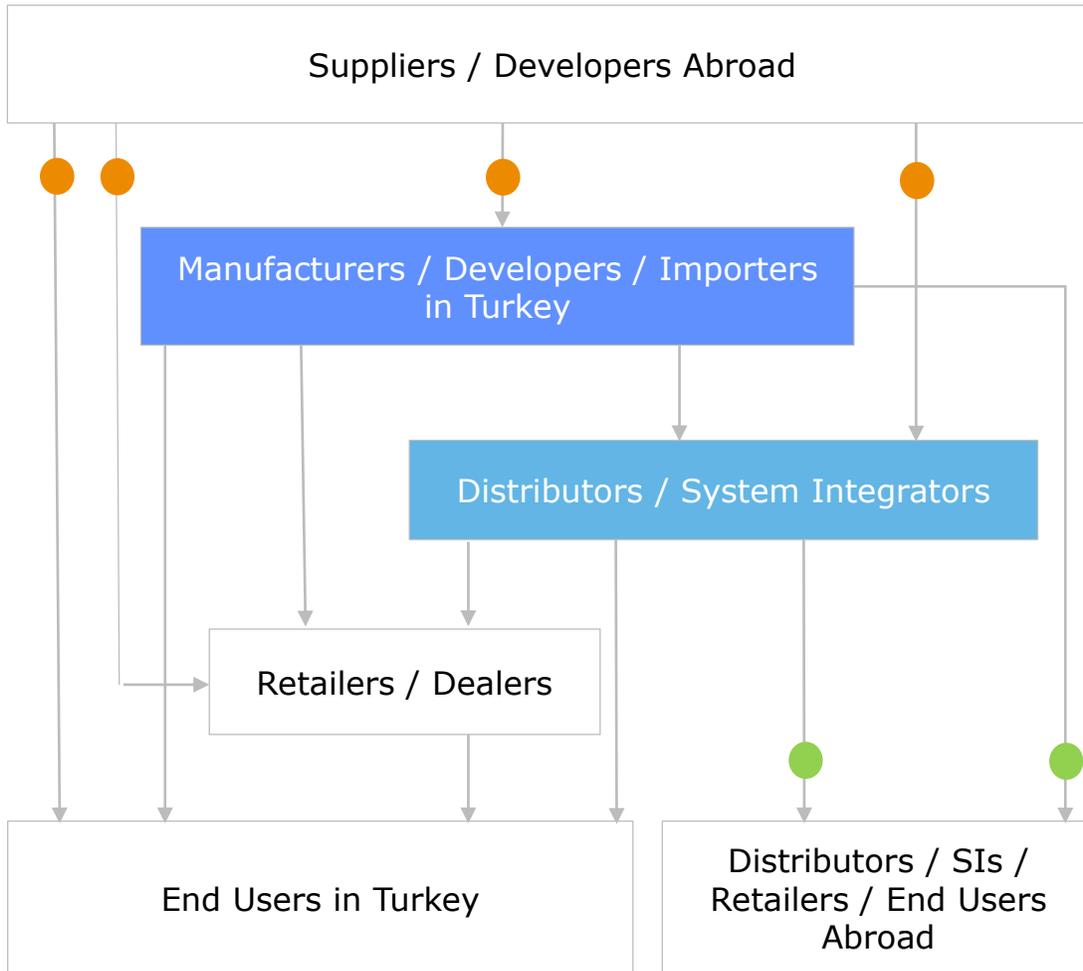


# Project scope

TUBISAD's Market Data study, which has been conducted since 2012, has been performed with Deloitte with a standardized scope and methodology for the last 5 years



# Measurement methodology



Sector size is calculated and verified through a bottom-up approach.

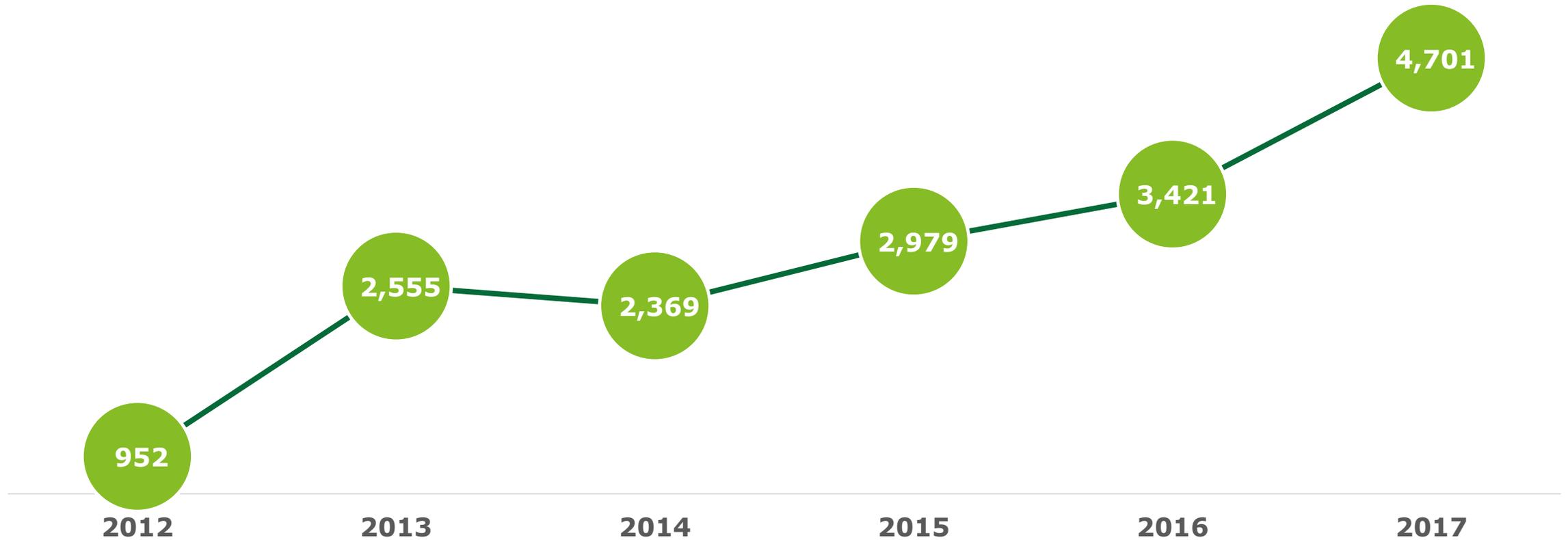
In addition to the data provided by our sector companies through a comprehensive survey, data from institutions such as BTK, Context, SASAD, and the Ministry of Science, Industry and Technology are also utilized.

- Company and sector data are measured properly to avoid any overlaps or duplicate calculations
- Company data are gathered together with different breakdowns:
  - Sales direct to End-users vs through distributors
  - Import vs export
  - Origin of products and services
  - R&D center share

● = Import  
● = Export

# Sector players in the scope of the study

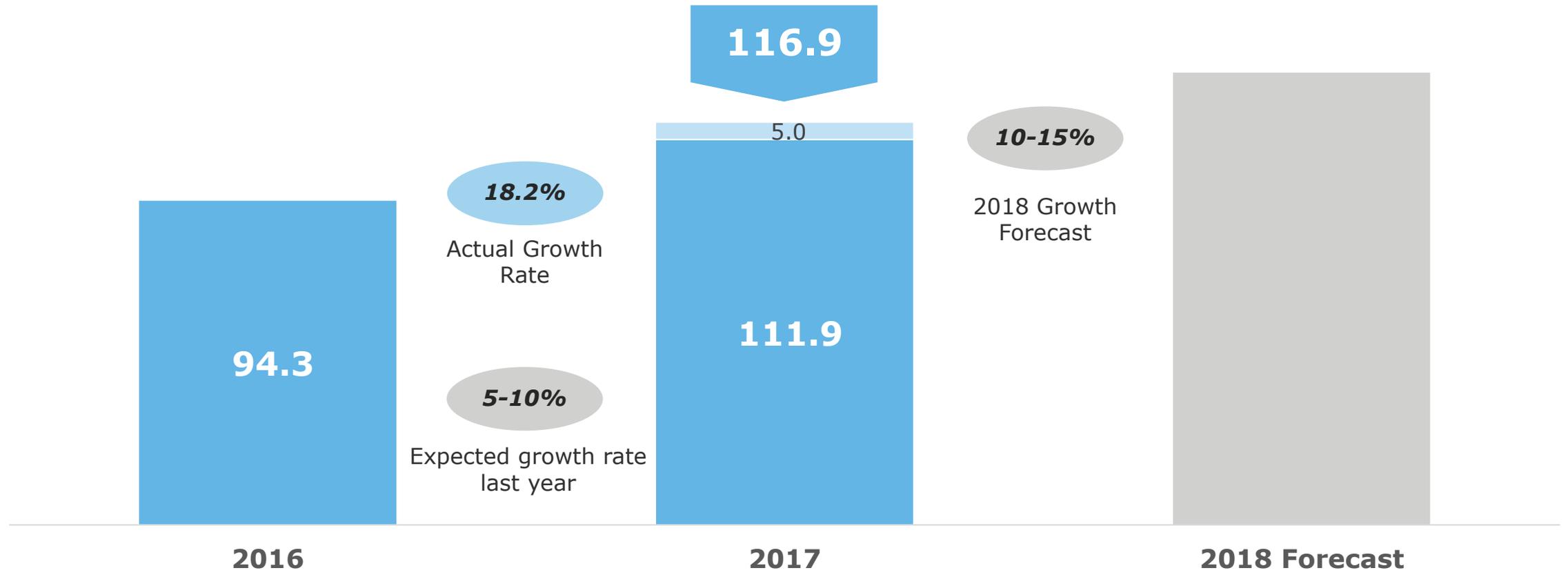
The number of companies whose data is being measured within the scope of our work has increased 5 times over the last five years and reached 4,701 in 2017



# Total sector size (bn TRY)

## ICT market size in Turkey

(billion TRY)



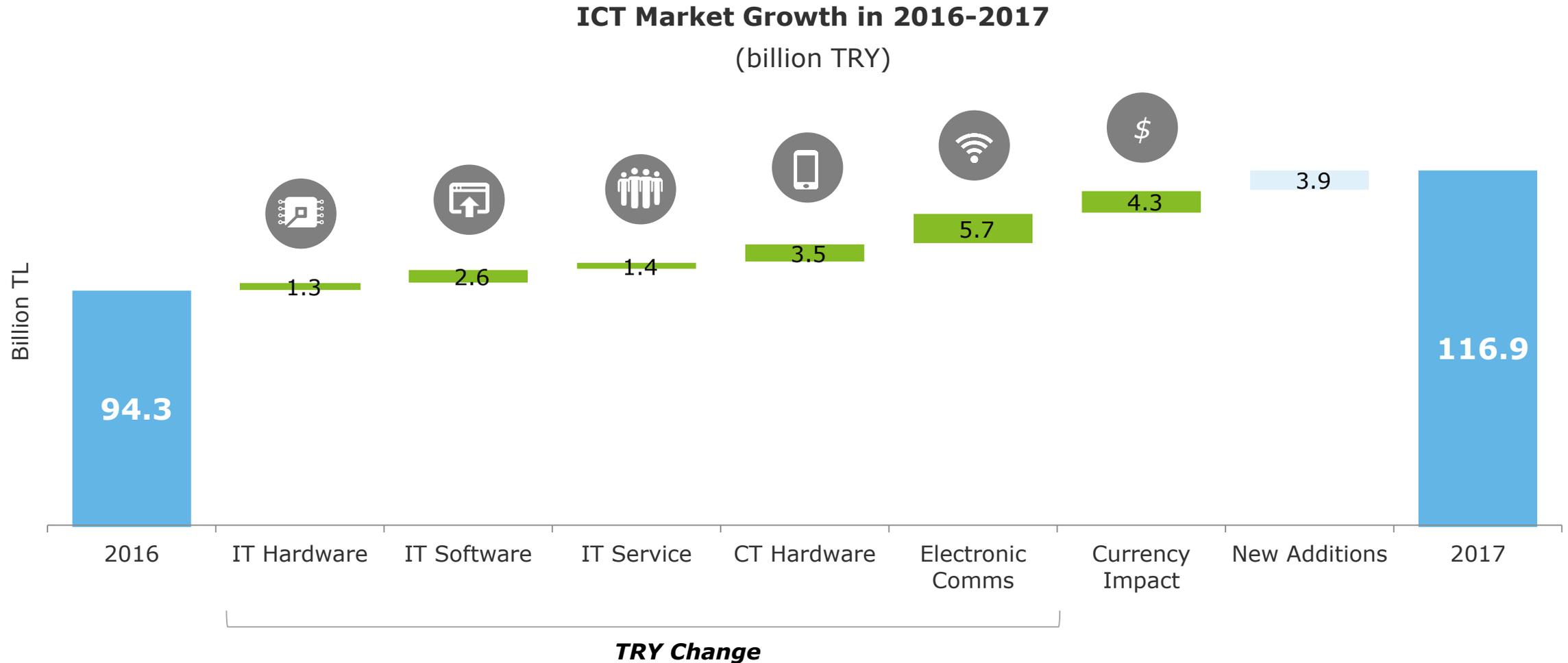
Annual changes refer to comparable growth rates

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Size of newly added companies this year

# Sector growth components

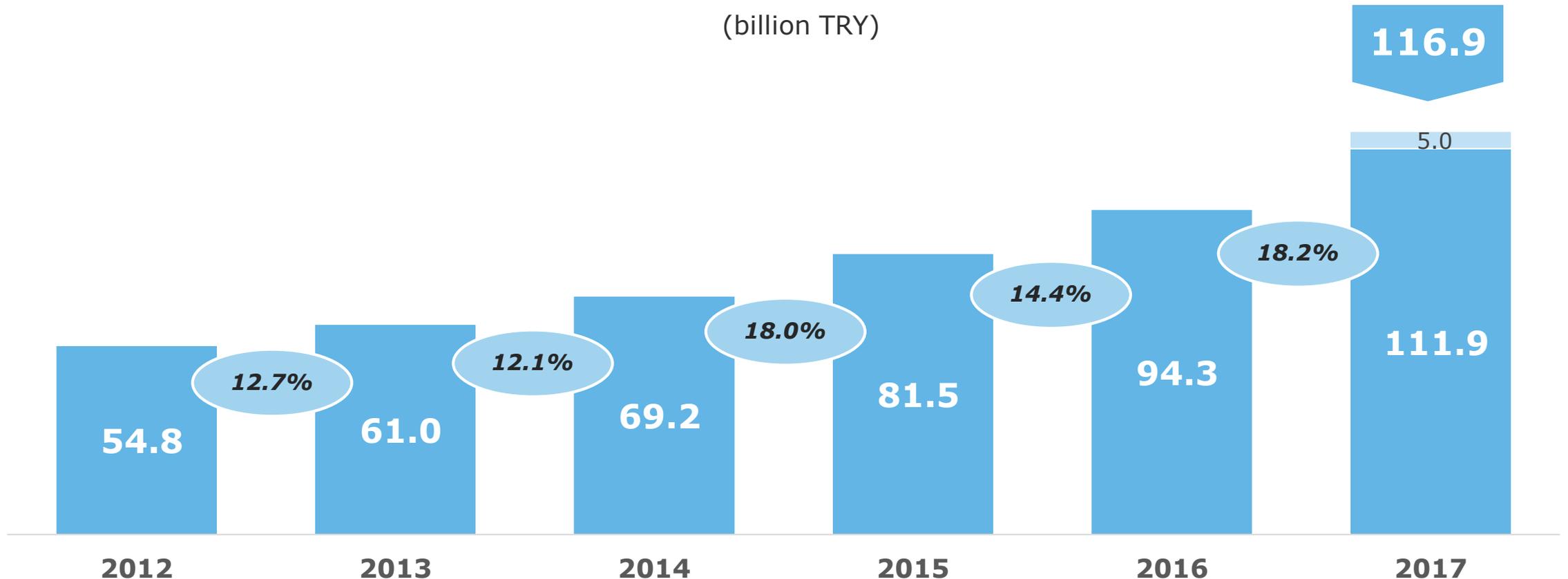
25% of the growth in the sector is coming from the Electronic Communications sector and about 20% is due to changes in foreign exchange rates



# 2012-2017 sector development (billion TL)

Size of the Turkish ICT sector has almost doubled by growing at annual average rate of 15% since 2012

**ICT Market Size in Turkey**  
(billion TRY)



Annual changes refer to comparable growth rates

Size of newly added companies this year

# Total sector size (USD bn)

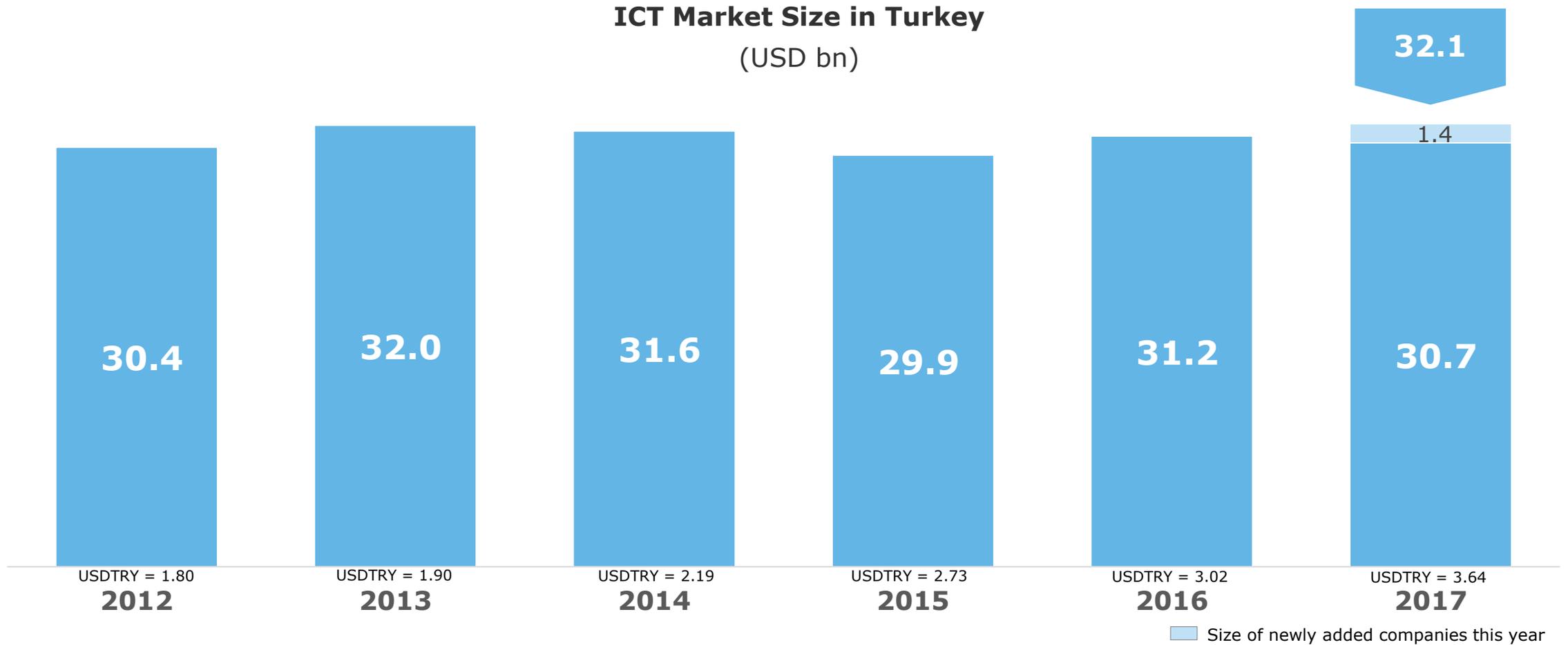
## ICT Market Size in Turkey (USD bn)



Annual changes refer to comparable growth rates

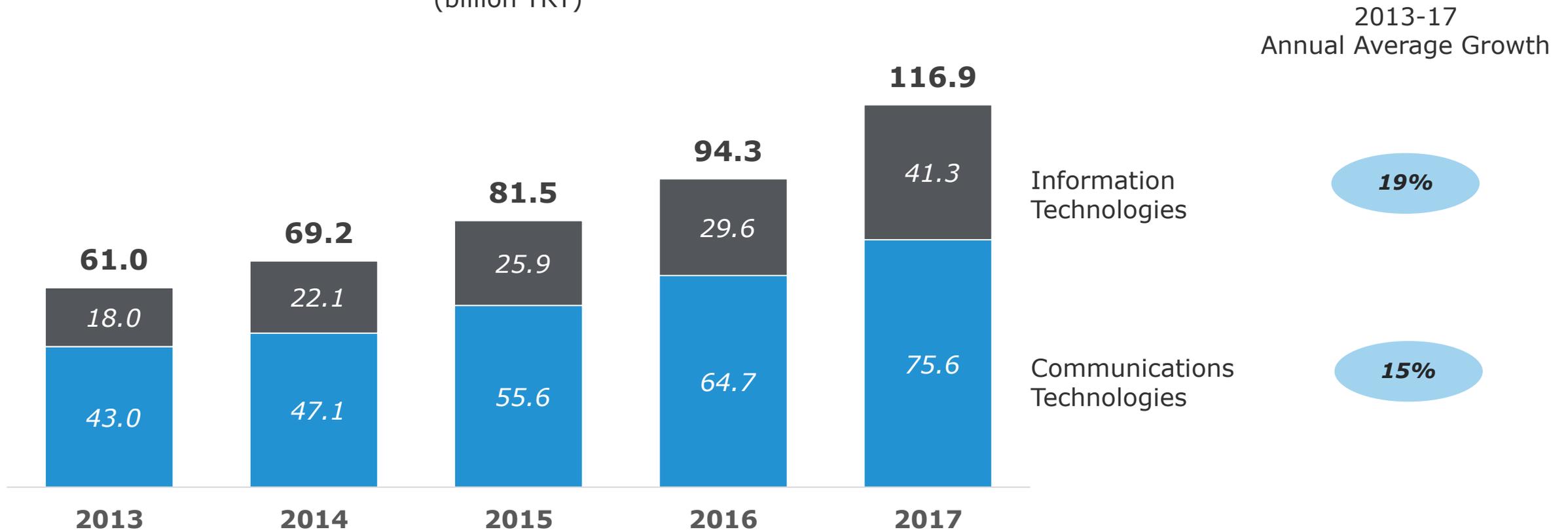
# 2012-2017 sector development (USD bn)

The Turkish ICT market has been trending in the USD 30-32bn range since 2012



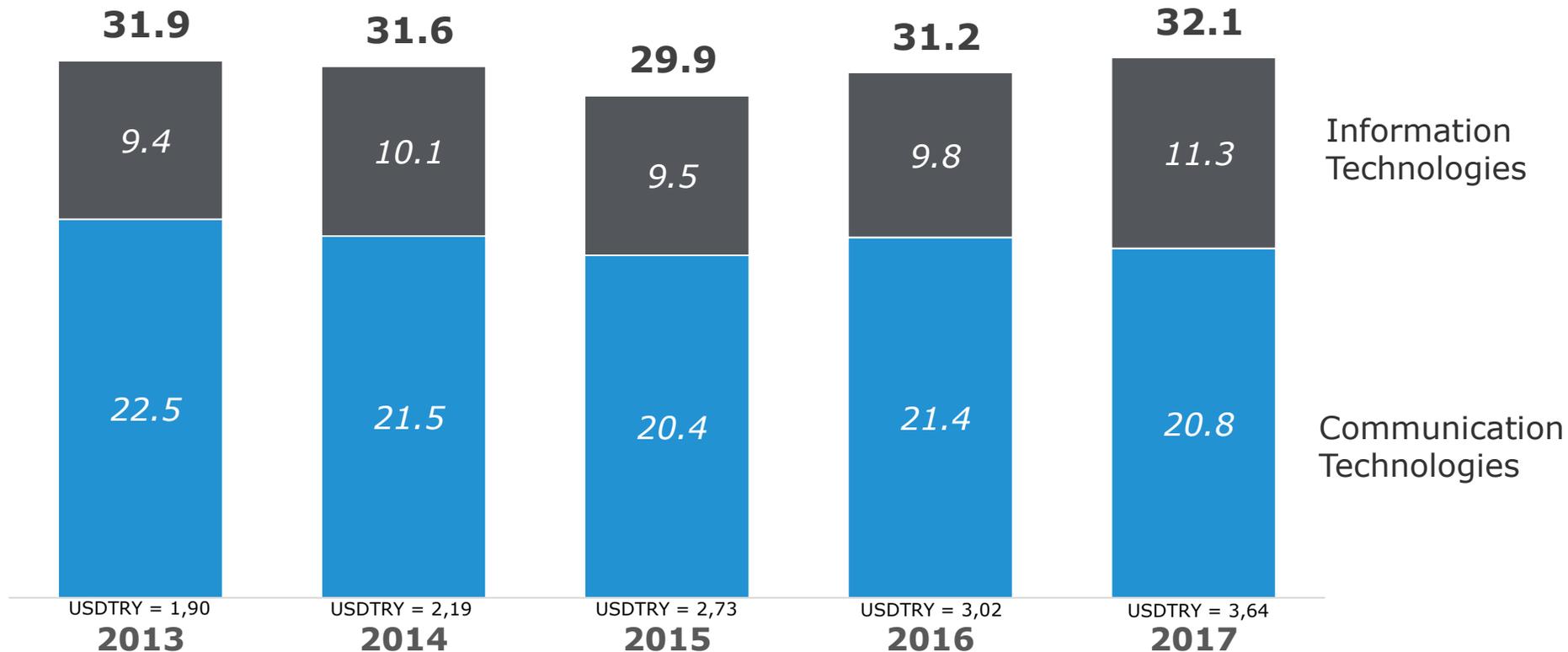
# Information and Communications Technologies market breakdown (billion TL)

**ICT Market Size in Turkey**  
(billion TRY)



# Information and Communications Technologies market breakdown (billion TL)

**ICT Market Size in Turkey**  
(billion TRY)



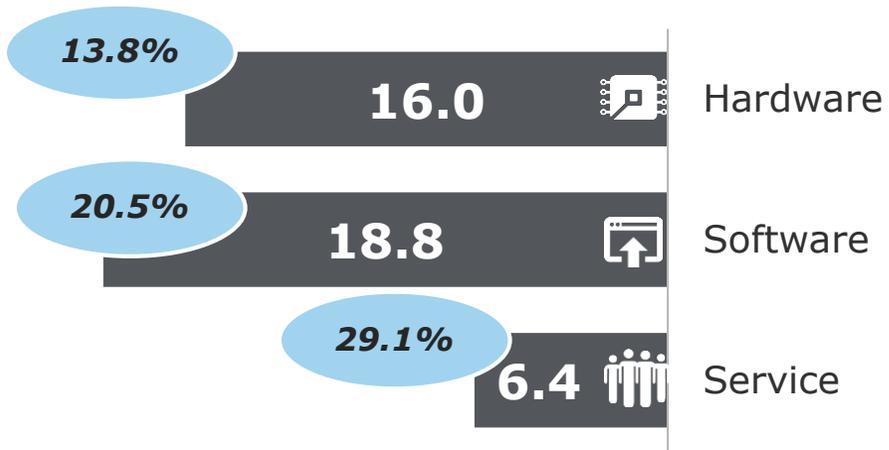
2013-17  
Annual Average Growth

Information Technologies  
**1.4%**

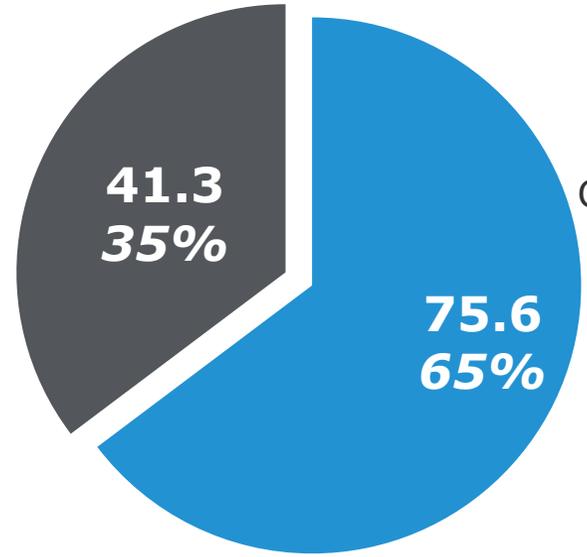
Communication Technologies  
**-2.0%**

# Information and Communications Technology sector subcategories

## Information Technologies (billion TRY)

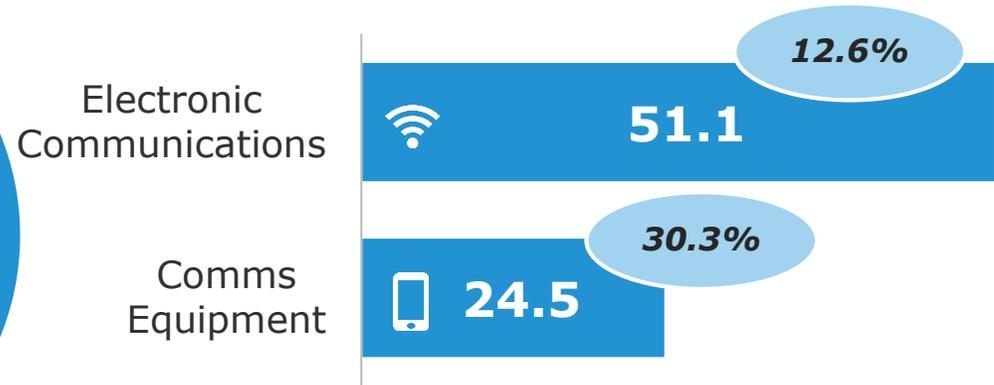


**18.9%**  
2016-17  
Growth Rate



**2017**

## Communications Technologies (billion TRY)



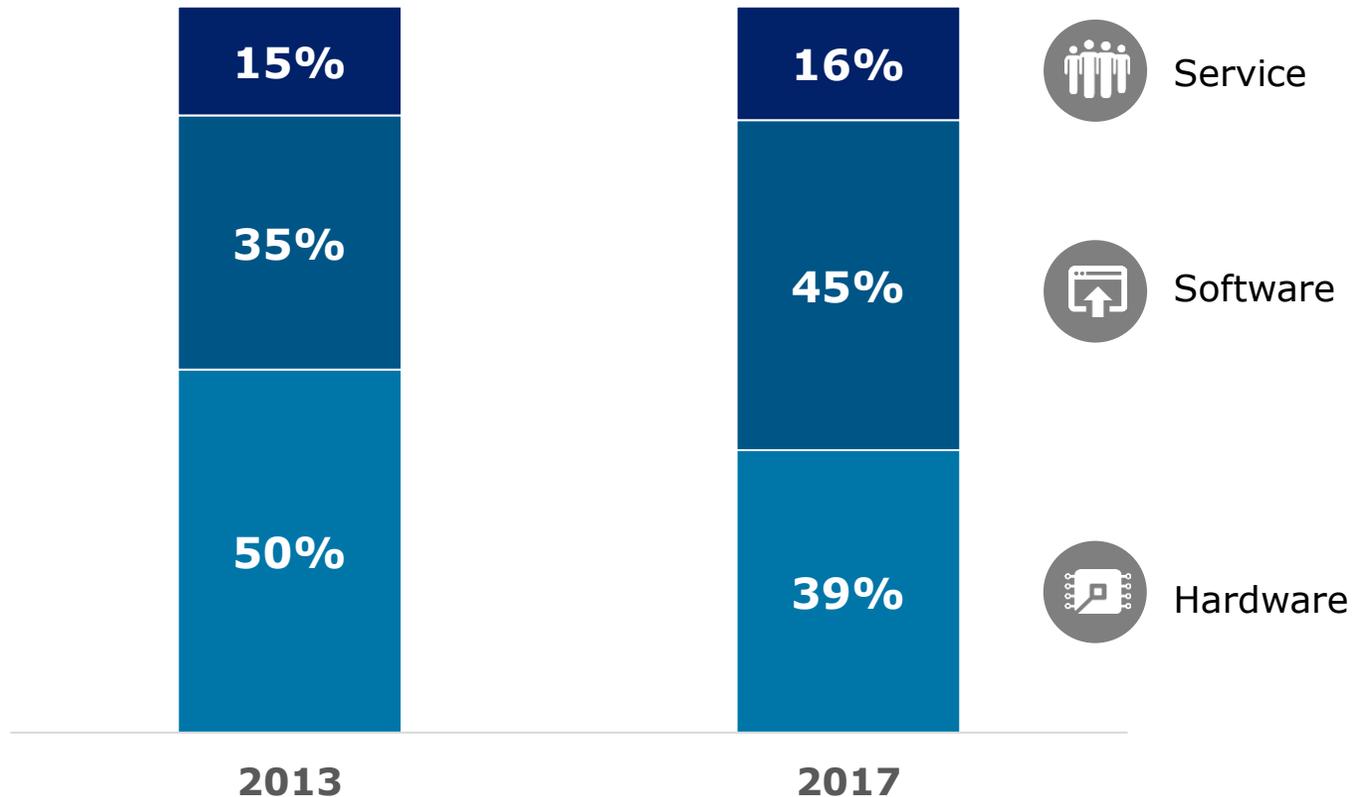
**17.8%**  
2016-17  
Growth Rate

Annual changes refer to comparable growth rates

# Shares of subsectors over time

The mix of sector components has been trending closer to that of developed countries since 2013 and the share of value-added activities such as software and services has continued to grow

## Information Technologies Market Components

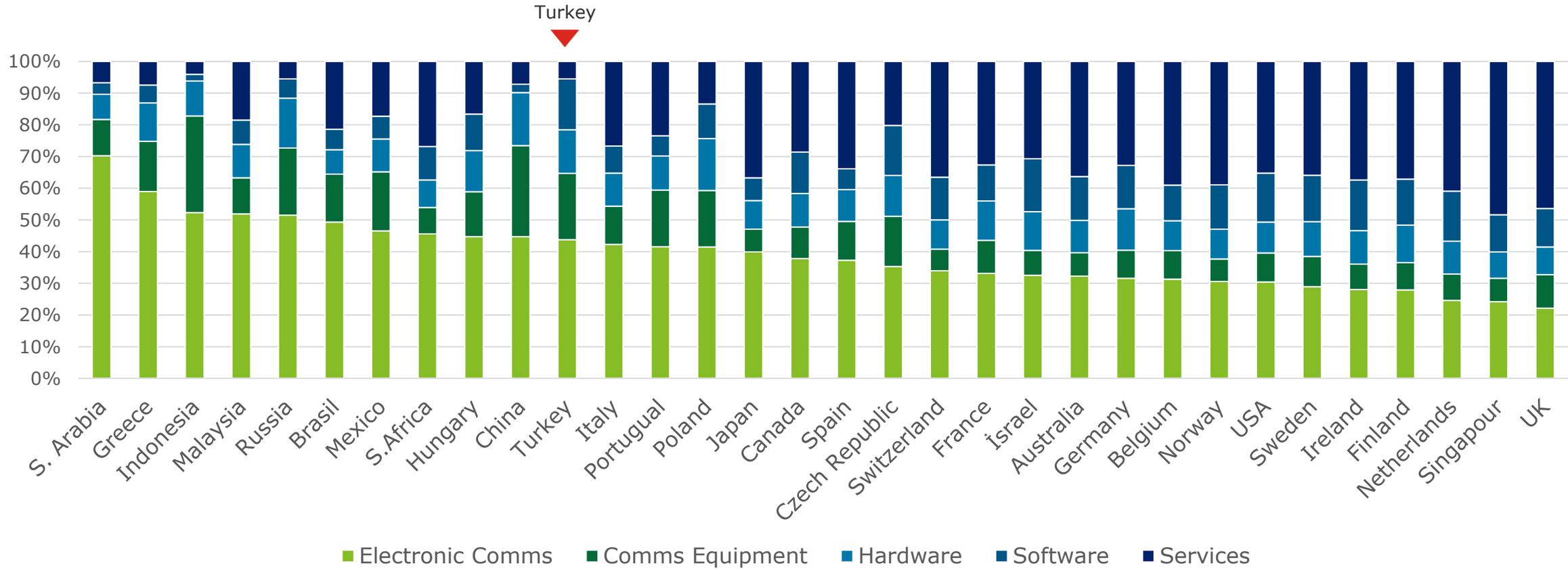


- Although the share of Information Technology remained mostly stable within the total, the distribution of its components has been evolving in favor of value-added sectors
- Among the drivers of growth in the Software and Information Services sectors are cloud computing and digital transformation. Growth in the R&D centers has also been a significant contributor
- However, when compares with the EU and other developed countries, the development opportunities in the service sector are especially noteworthy.

# Shares of subsectors over time

The IT services sector in Turkey appears to have a relatively small size when assessed within the total

## Information and Communication Market Components



# Technology Development Zones (Technoparks)

14% of the total sector volume was generated through Technoparks in 2017

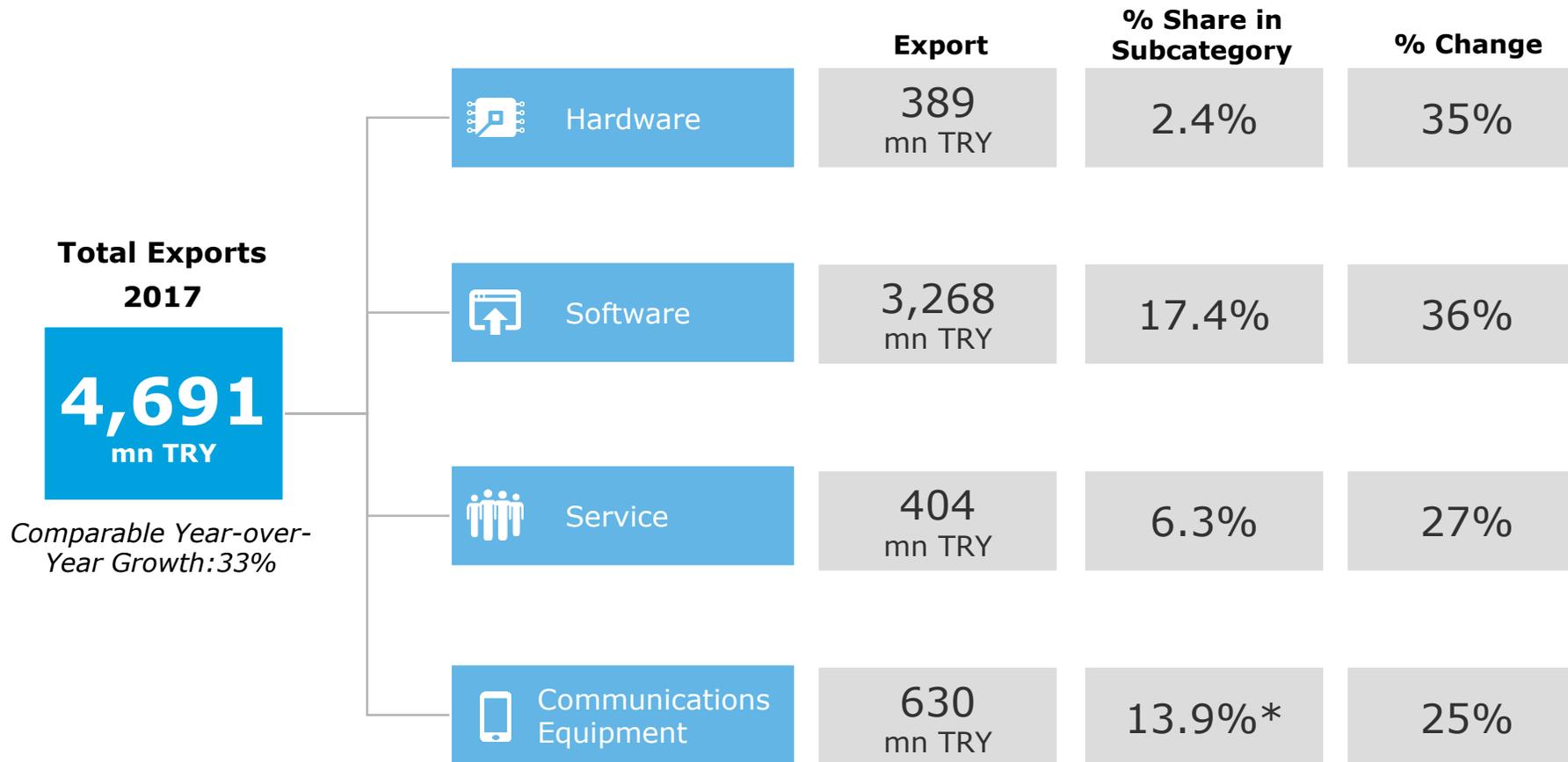
Technoparks in Turkey	2016	2017	% Change
Number of Technoparks	64	69	7.8%
Number of Companies	4,217	4,624	9.7%
Number of Employees	41,172	45,274	10.0%
Total Revenues (bn TRY)	11.6	15.8	36.6%
Total Exports (bn TRY)	2.4	2.9	20.8%
<i>Revenue per Company (million TRY)</i>	2.7	3.4	24.6%
<i>Revenue per Employee (thousand TRY)</i>	282	350	24.3%
Exports per Technopark (million TRY)	37.5	42.0	12.1%
Exports as a share of Revenues	20.7%	18.3%	-239 bps

Source: Republic of Turkey, Ministry of Science, Industry and Technology

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# ICT Exports

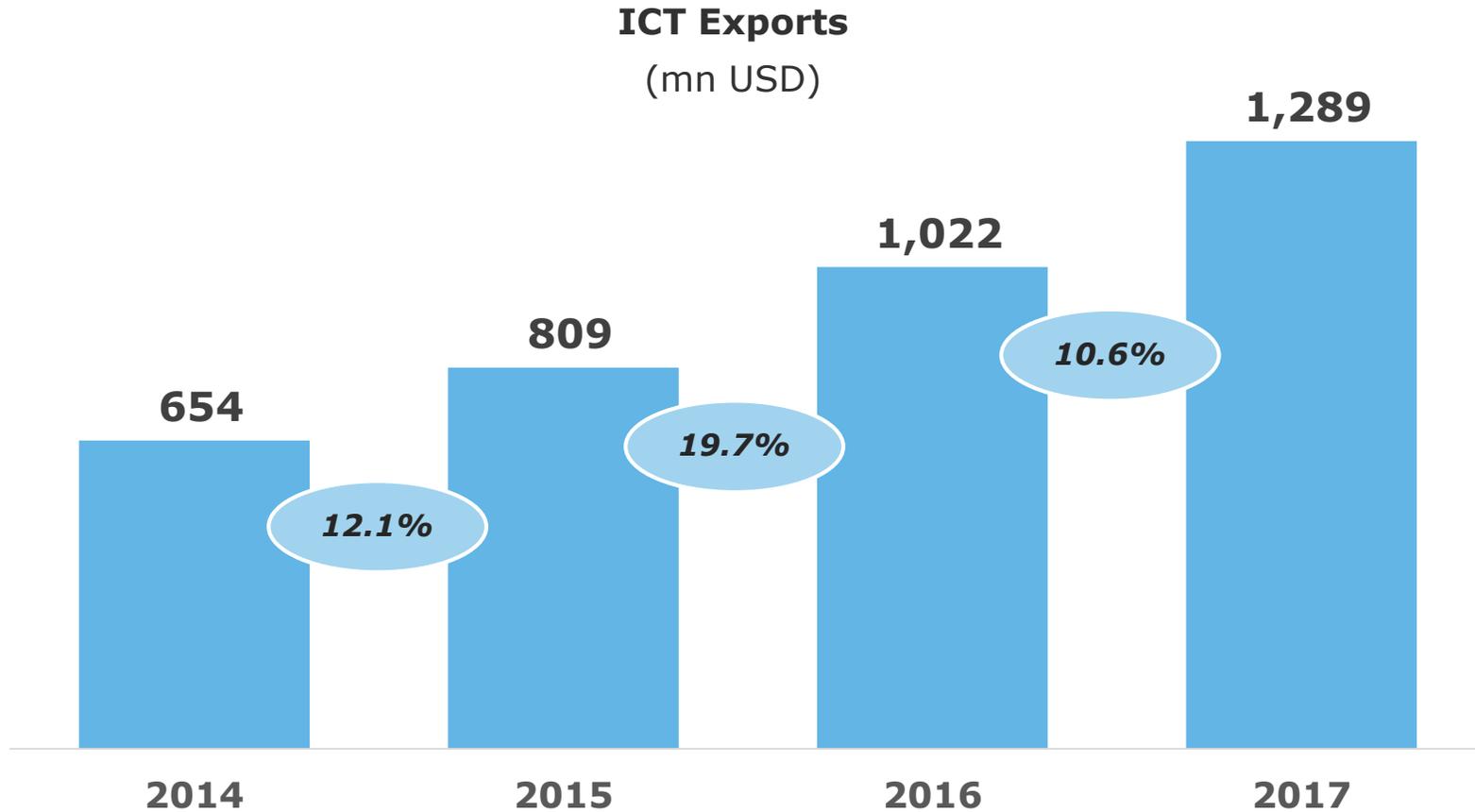
mn TRY



\*Mobile phones are excluded.

# ICT Exports

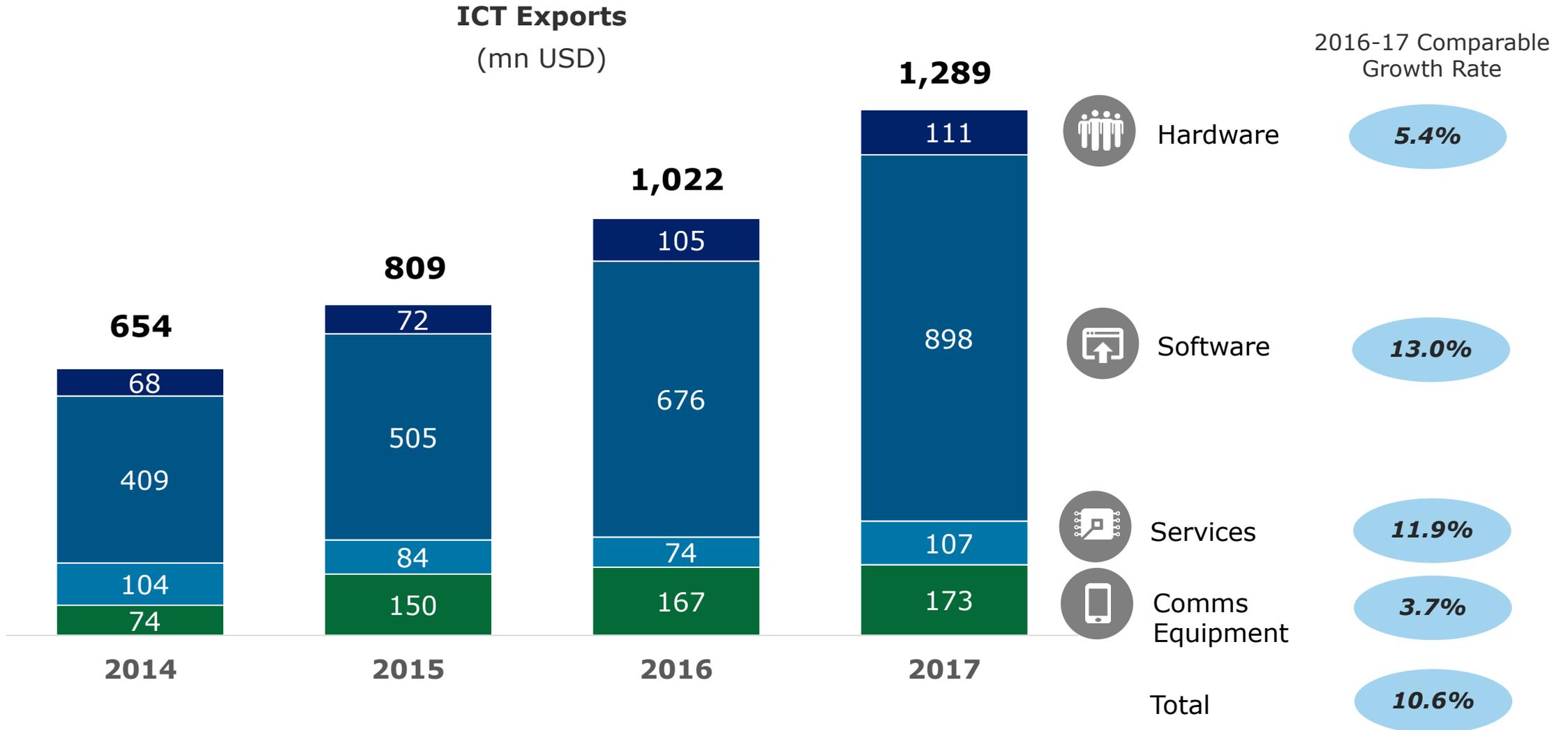
ICT exports have nearly doubled since 2014 reaching US \$ 1.3 billion



- Especially with the depreciation of the Turkish lira and the support of export oriented policies, sector exports have doubled in USD over the past three years.
- According to information which are collected from study:
- A large share of sector exports comes from technology development zones
  - 63% of exports are made to European Union countries

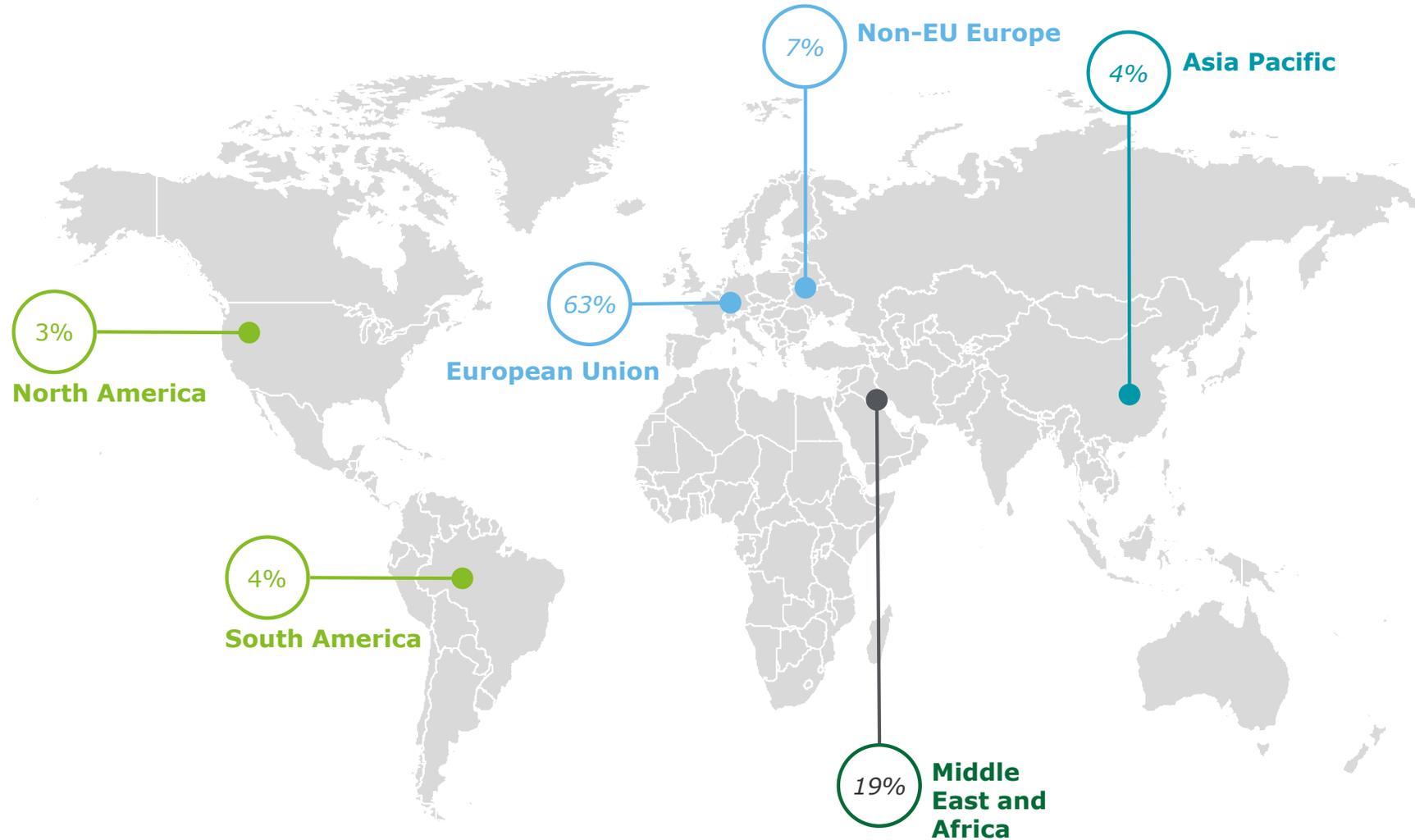
# ICT exports

Development of sub categories- mn USD



# ICT export destinations

**Breakdown of total exports by region 2017**



Based on responses of 71 firms, breakdown of total exports to regions

# ICT employment in thousands



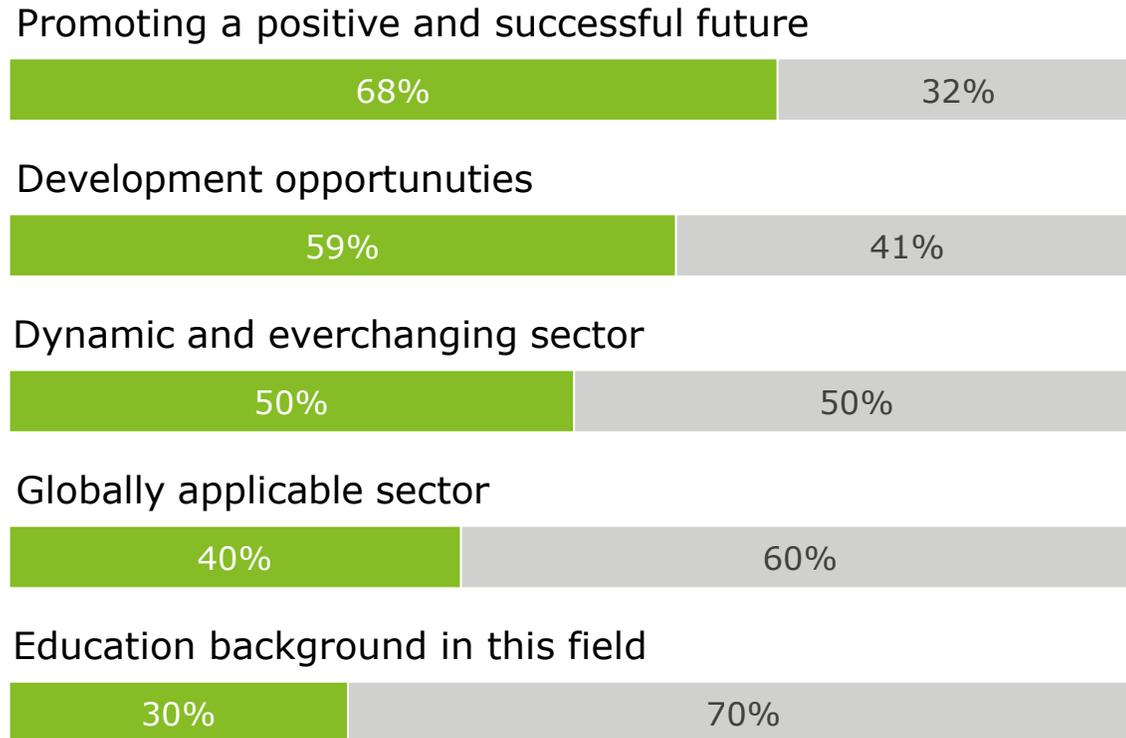
<sup>1</sup> Based on survey responses and BTK data

\* 2015 data was updated. Growth rates represent comparable rates (calculated by excluding surveyed firms for the first time this year)

# Why a career in ICT

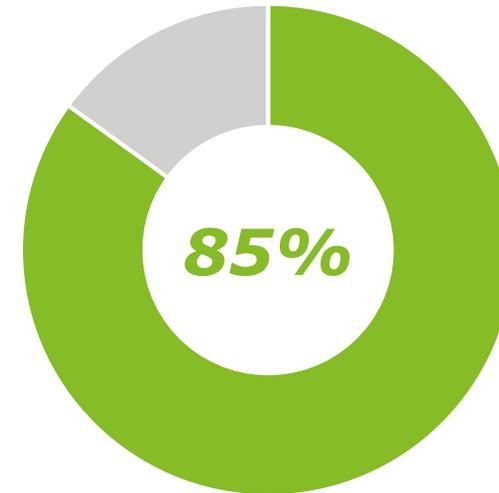
## Opinions of women in technology

### Why do women workers prefer the technology sector:



Source: Deloitte Turkish Women in Technology Report, 2018

### Percentage of those who want to continue their career in the industry



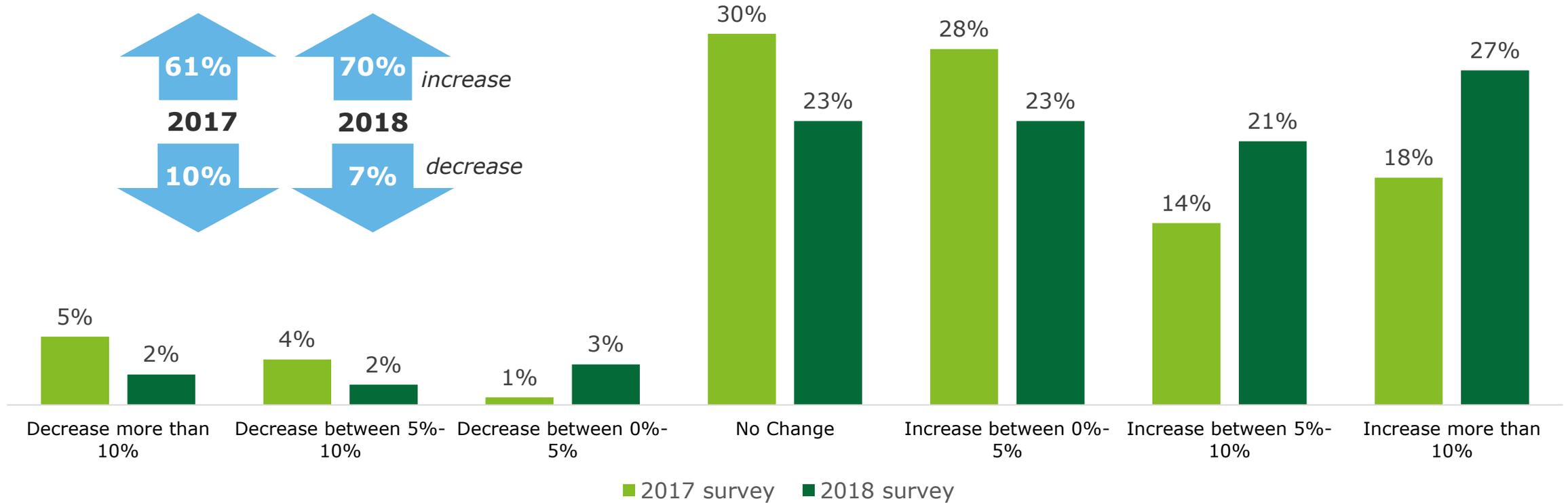
### Why do they want to leave?

- No job-private life balance
- No promotion opportunities
- Inadequate wages and benefits
- No opportunities for career advancement
- Males are dominant in sector

# ICT employment

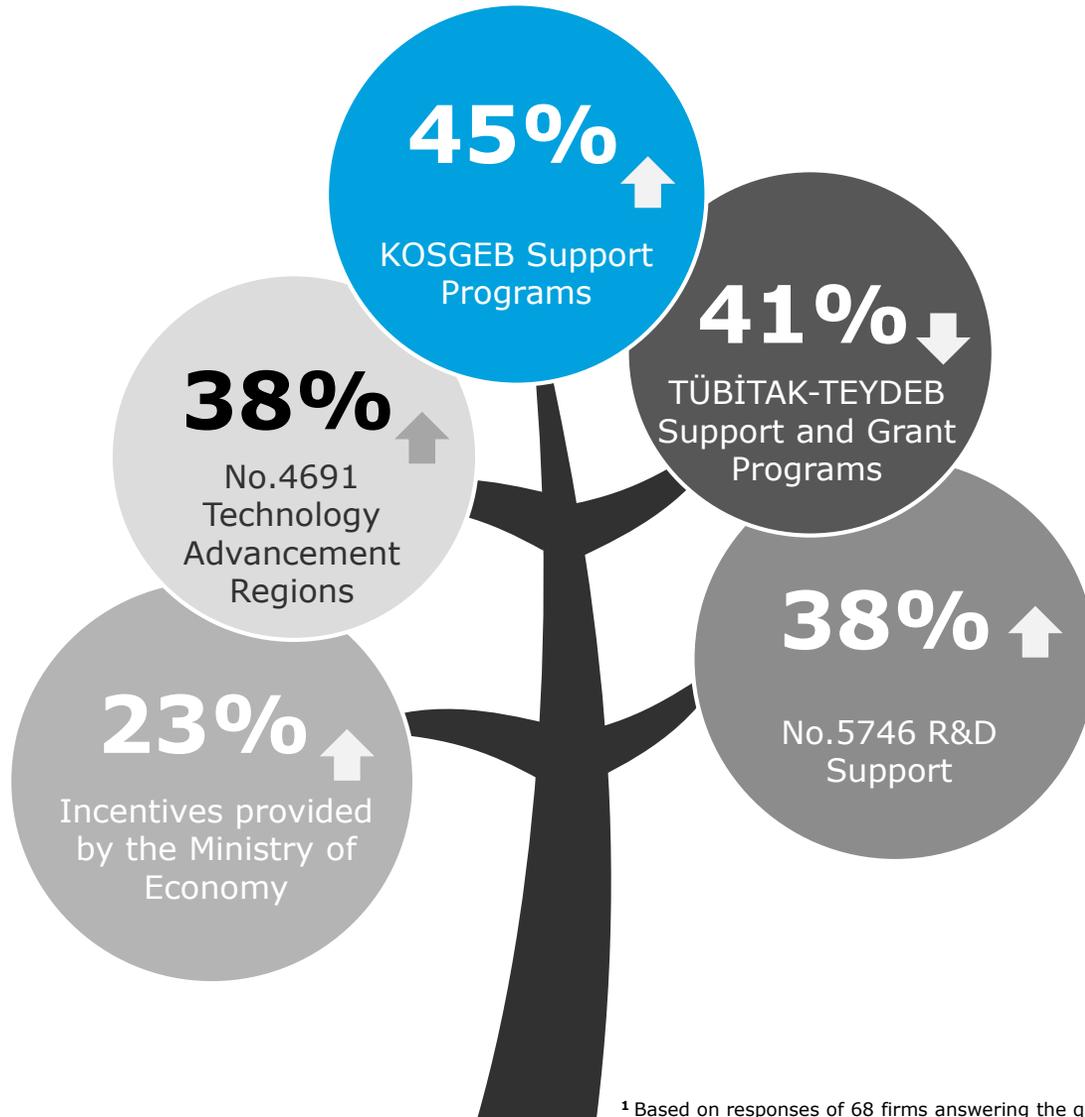
## Trends over time

**In your view, how is the number of employees for your company likely to change this year?**



2018 N = 124; 2017 N = 168

# Incentives utilized



**49%**  
% of firms that utilized incentives in 2017<sup>1</sup>

**228**  
million TL  
Total value of incentives used

<sup>1</sup> Based on responses of 68 firms answering the question

# Key issues in the ICT sector

Over the years, sector companies have been raising the same concerns in a consistent manner - 'lack of qualified talent' and 'price oriented outsourcing / public procurement policies' continues to be the leading issues impeding growth

**Lack of demand for outsourcing**

**Lack of qualified talent**

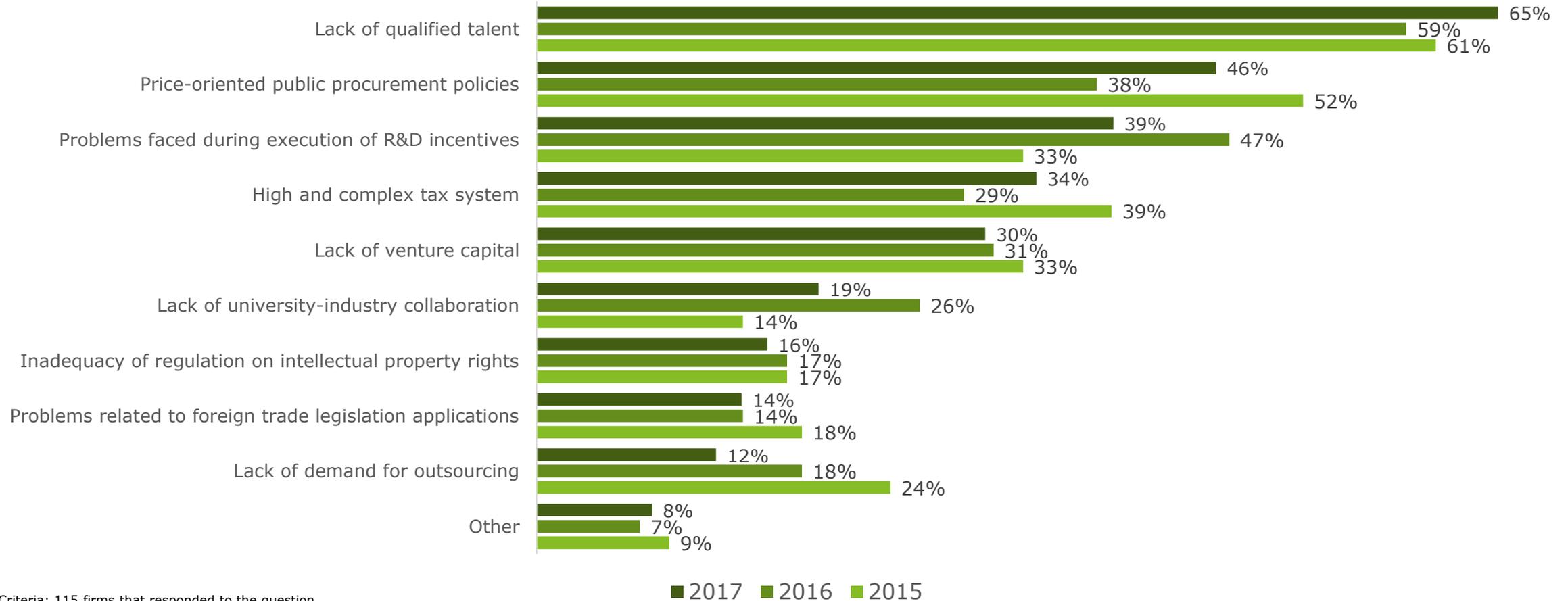
**Price-oriented public procurement policies**

**Problems faced during execution of R&D incentives**

**Lack of venture capital**

# Key issues in the ICT sector

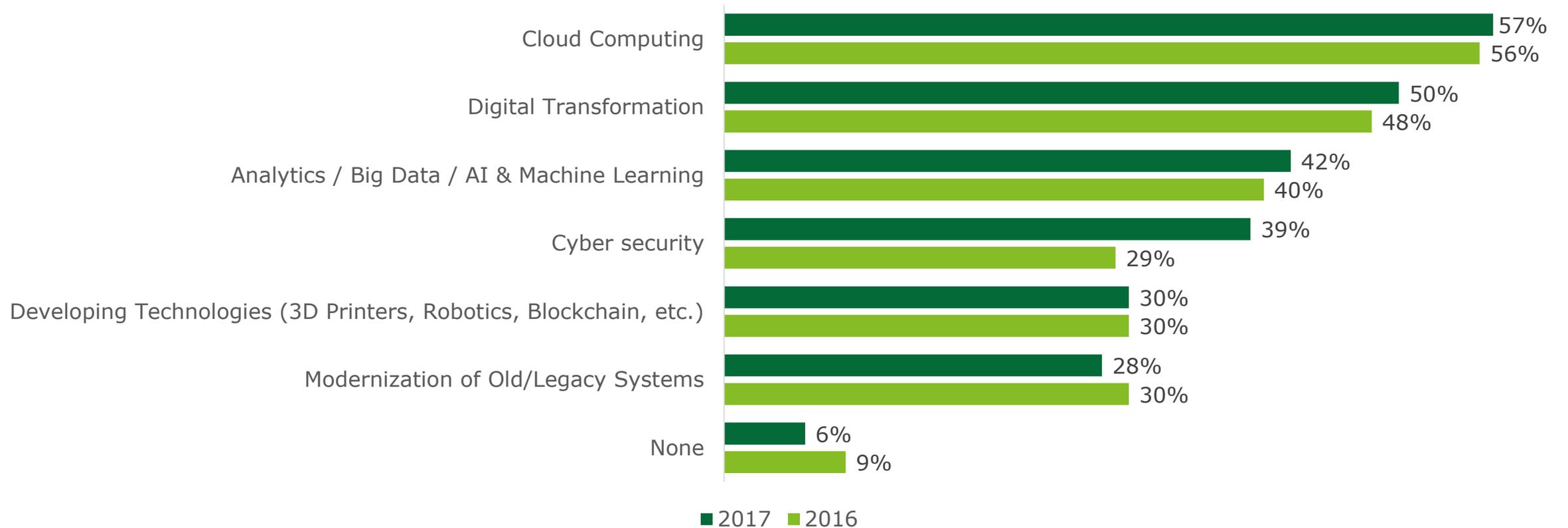
## What are the 3 major problems faced in the sector?



Criteria: 115 firms that responded to the question

# Impact Areas

**For the next two years, which of the following technological areas will have the most impact on your business (Choose at most three answers)**



N = 115

# 2017 ICT Market in Turkey

bn TRY

## 2017 ICT Market in Turkey

Total Exports  
**4.7 bn**

Total Market Size  
**116.9**

Total Employment  
**128k**

### Information Technologies

**41.3**

### Communications Technologies

**75.6**

 Hardware

**16.0**

 Software

**18.8**

 Service

**6.4**

 Equipment

**24.5**

 Electronic Comms

**51.1**

# 2017 ICT Market in Turkey

bn USD

## 2017 ICT Market in Turkey

Total Exports  
**1.3 bn**

Total Market Size  
**32.1**

Total Employment  
**128k**

### Information Technologies

**11.3**

 Hardware

**4.4**

 Software

**5.2**

 Service

**1.8**

### Communications Technologies

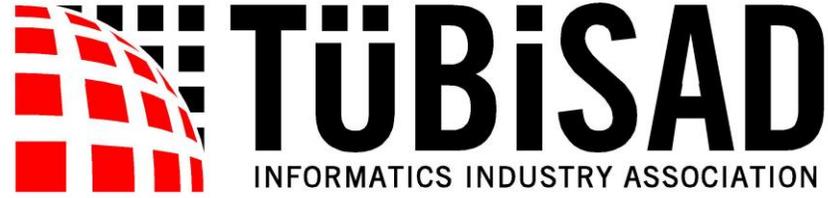
**20.8**

 Equipment

**6.7**

 Electronic Comms

**14.1**



# Thank You

We would like to thank to  
Ministry of Science, Industry and Technology, BTK, SASAD, Context,  
TÜBİSAD members and sector companies  
for their valuable contributions.

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