



# TBD KAMU-BİB

Public Informatics Platform-19

October 26<sup>th</sup>-29<sup>th</sup> 2017



## Digital Turkey and Cyber World: National Goals on Cyber Security

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# CYBER WORLD ON 2017



DATA BREACHES	2014 <sup>(1)</sup>	2015 <sup>(2)</sup>	2016 <sup>(3)</sup>
TOTAL BREACHES	312	318	1,209
AVERAGE IDENTITIES EXPOSED PER BREACH	805	466	927
TOTAL IDENTITIES EXPOSED	348,000,000	428,000,000	1,100,000,000
BREACHES WITH 10 MILLION+ IDENTITIES EXPOSED	4	9	15

In the last **8 years** more than **7.1 BILLION** identities exposed + 3 Billion  + 0,14 Billion  + .....



RANSOMWARE	2014	2015	2016
NUMBER OF DETECTIONS	0	340,665	463,841
RANSOMWARE FAMILIES	30	30	101
AVERAGE RANSOM AMOUNT (USD Dollar)	373	294	1,077



PHISHING RATE by INDUSTRY	2017 (October)	2016	
Agriculture, Forestry & Fishing	1 for each 1751 e-mails	1 for each 1815 e-mails	1 <sup>st</sup>
<b>Public Administration</b>	<b>1 for each 2147 e-mails</b>	1 for each 2329 e-mails	<b>2<sup>nd</sup></b>
Mining	1 for each 2276 e-mails	1 for each 2254 e-mails	3 <sup>rd</sup>
Finance, Insurance & Real Estate	1 for each 2420 e-mails	1 for each 1918 e-mails	4 <sup>th</sup>
Services Sector	1 for each 3191 e-mails	1 for each 3091 e-mails	5 <sup>th</sup>

(1) April 2016 Symantec Corp. Internet Security Threat Report, Vol: 21

(2) 27 April 2017 Symantec Corp. Internet Security Threat Report, Vol: 22

(3) 2017 September Symantec Monthly Attack Report, [https://www.symantec.com/security\\_response/publications/monthlythreatreport.jsp](https://www.symantec.com/security_response/publications/monthlythreatreport.jsp)



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# CYBER WORLD ON 2017

Attack Groups	Aliases	Country	Start Year	Motivation	Target Categories & Regions
<b>Sandworm</b>	Quedagh, BE2 APT	Russia	2014	<b>Espionage, Sabotage</b>	<b>Governments, International Organizations, Europe, US, Energy</b>
<b>Fritillary</b>	Cozy Bear, APT29, Office Monkeys	Russia	2010	<b>Espionage, subversion</b>	<b>Governments, Think Tanks, Media, Europe, US</b>
<b>Swallowtail</b>	Fancy Bear, APT28, Sednit	Russia	2007	<b>Espionage, subversion</b>	<b>Governments, Europe, US</b>
<b>Cadelle</b>	/None/	Iran	2012	<b>Espionage</b>	<b>Airlines, telecommunications, Iranian Citizens, Governments, NGO's</b>
<b>Appleworm</b>	Lazarus	North Korea	2012	<b>Espionage, Sabotage, subversion</b>	<b>Financial, Military, Governments, Entertainment, Electronics</b>
<b>Housefly</b>	Equation	US	2001	<b>Espionage</b>	Targets of interest to nation-state attackers
<b>Strider</b>	Remsec	Western	2011	<b>Espionage</b>	<b>Embassies, airlines, Russia, China, Sweden, Belgium</b>
<b>Suckfly</b>	/None/	China	2014	<b>Espionage</b>	<b>e-Commerce, Governments, Technology, healthcare, Financial, shipping</b>
<b>Buckeye</b>	APT3, UPS, Gothic Panda	China	2009	<b>Espionage</b>	<b>Military, defense industry, Media, Education, US, UK, Hong Kong</b>
<b>Tick</b>	/None/	China	2006	<b>Espionage</b>	<b>Technology, broadcasting, Japan, aquatic engineering</b>

Notable Targeted Attack Groups that have been publicly connected to nation states

© 2017 Symantec Corp. Internet Security Threat Report, Vol: 22



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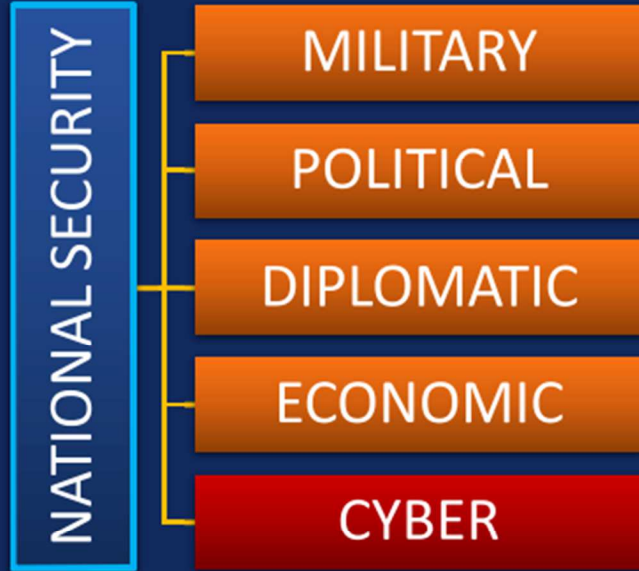
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# Cyber Security & National Security

**National Security:** Identification of **threats** and **opportunities** by monitoring the **regional** and **global** environment in order to take measures against the threats to the national state and **security**, and the **processes** to determine the politics appropriate to these issues and to implement the most appropriate policies (National Security Committee)\*



The infographic features the NATO logo (a blue square with a white compass rose and the text "NATO OTAN") in the top left corner. To the right of the logo, the title "NATO Summit in Warsaw, 2016" is displayed in white text on a dark blue background. Below the title, three horizontal bars provide key statistics: a blue bar for "2016: Cyber attacks to NATO ICT System" showing "500 Attacks/month (60% increase w.r.t. 2015)" with a green circular icon containing "ATTACK"; a green bar for "National Cyber Security Budgets" comparing "France (2014): 1 Billion €" and "UK (2016): 2.5 Billion €" with a stack of gold coins icon; and a red bar for "2030 Cyber UnSecurity Volume: 90 Trillion \$" (Denver University Research Report) with a green padlock icon.

\* <http://www.mgk.gov.tr/index.php/milli-guvenlik-kurulu/genel-bilgi>

\*\* <http://www.nato.int/docu/review/2017/Also-in-2017/nato-priority-spending-success-cyber-defence/EN/index.htm>



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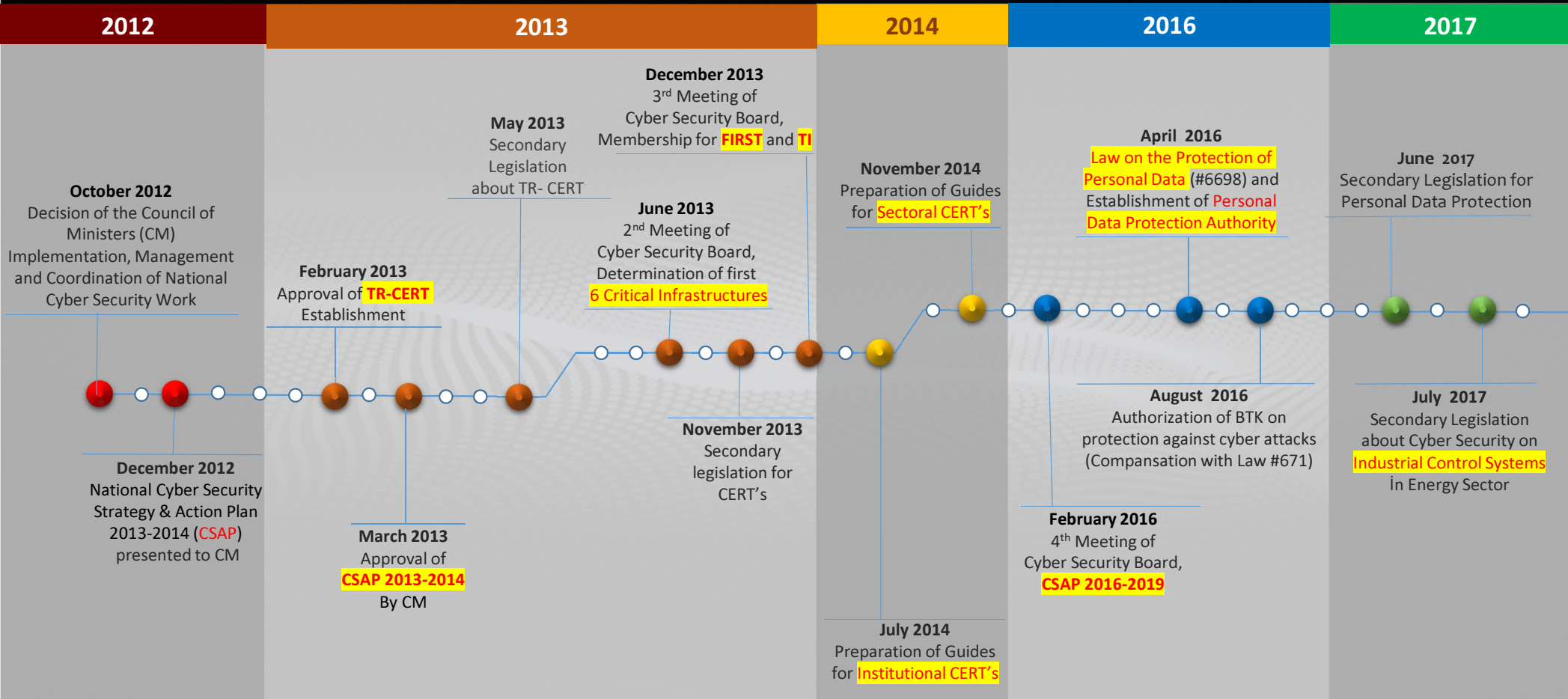
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# Short History of Cyber Security in Turkey



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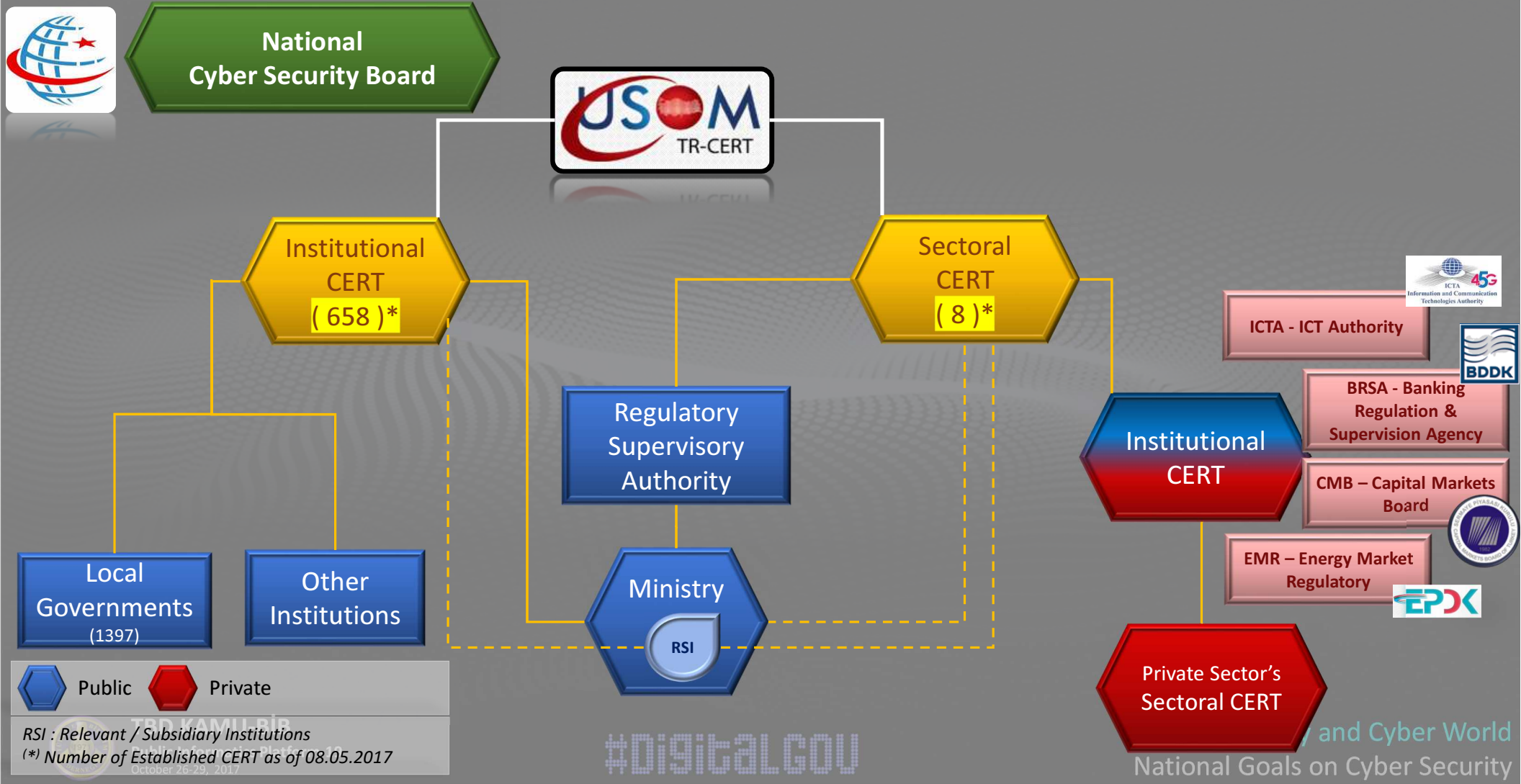
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# Cyber Security Governance Model of Turkey



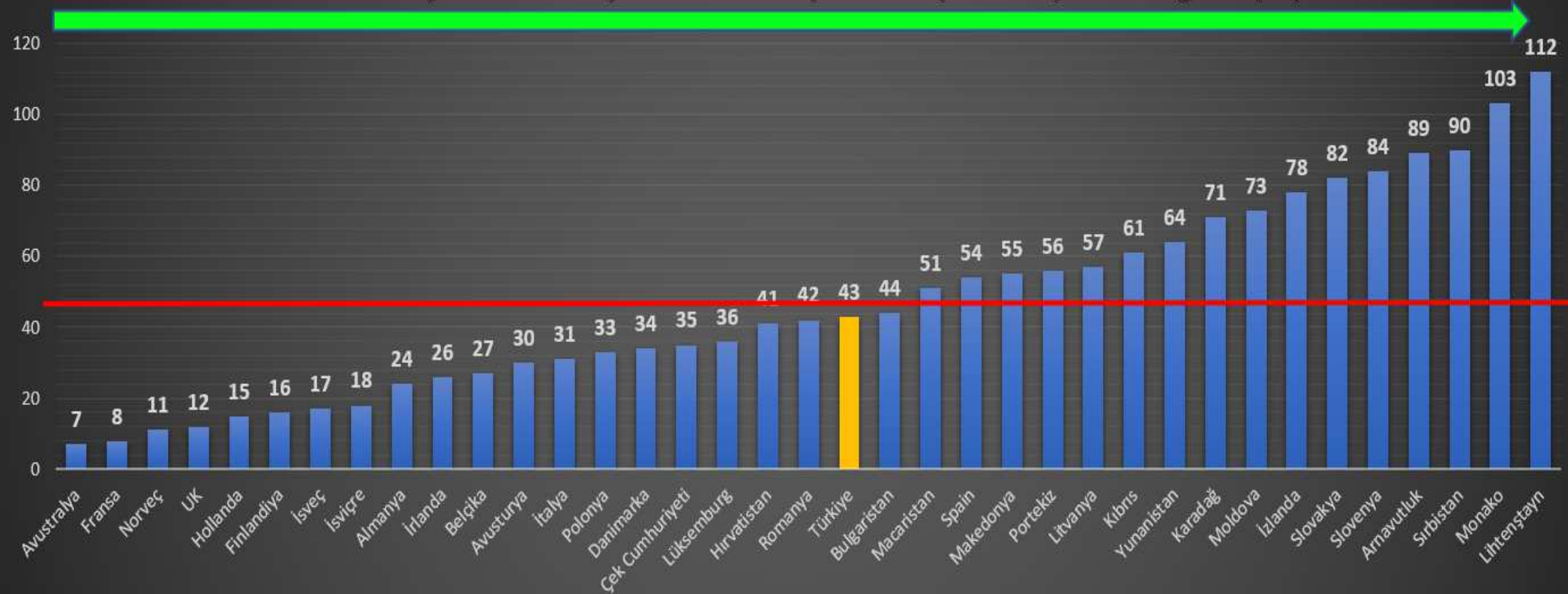




# Cyber Security – Global Benchmarking

193 Countries

ITU Global Cyber Security Index - Europe 2017 (Country Ranking Graph)



# Future Plans on National Cyber Security Super Structure

**CURRENT STATE**



Ministry of Transport,  
Maritime Affairs  
& Communications

Strategy &  
Action Plan

Sectoral Support



T.C. BİLİM, SANAYİ VE  
TEKNOLOJİ BAKANLIĞI  
Ministry of Science,  
Industry & Technology

Regulation &  
Supervision



BTK  
BİLGİ TEKNOLOJİLERİ  
VE İLETİŞİM KURUMU  
Information & Communication  
Technologies Authority

Operation and  
R&D



TÜBİTAK

The Scientific & Technological  
Research Council of Turkey  
Cyber Security Institute

Cyber Intelligence



General  
Directorate  
of Security  
National  
Intelligence  
Agency



Bogazici University  
Cyber Security Center

Private Sector

**aselsan**  
Electronic Industry

**HAVELSAN**  
Air Electronic Industry

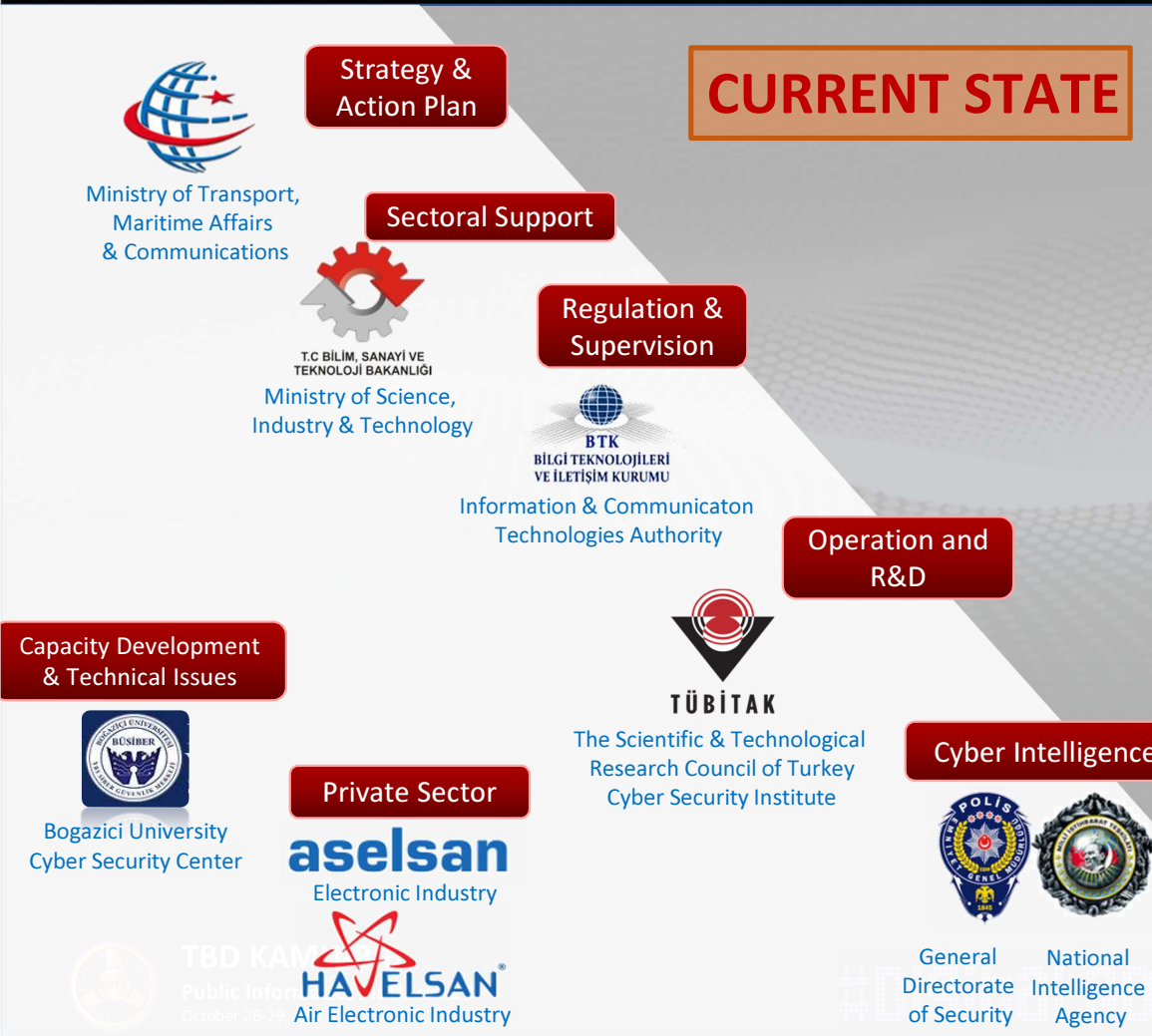


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# Future Plans on National Cyber Security Super Structure



## Single Center in Cyber Security

16 Şubat 2017 - 22:49 | Son Güncelleme : 17 Şubat 2017 - 10:3

Presidency initiated a work to combine the work carried out in different institutions in the field of cyber security under single center.



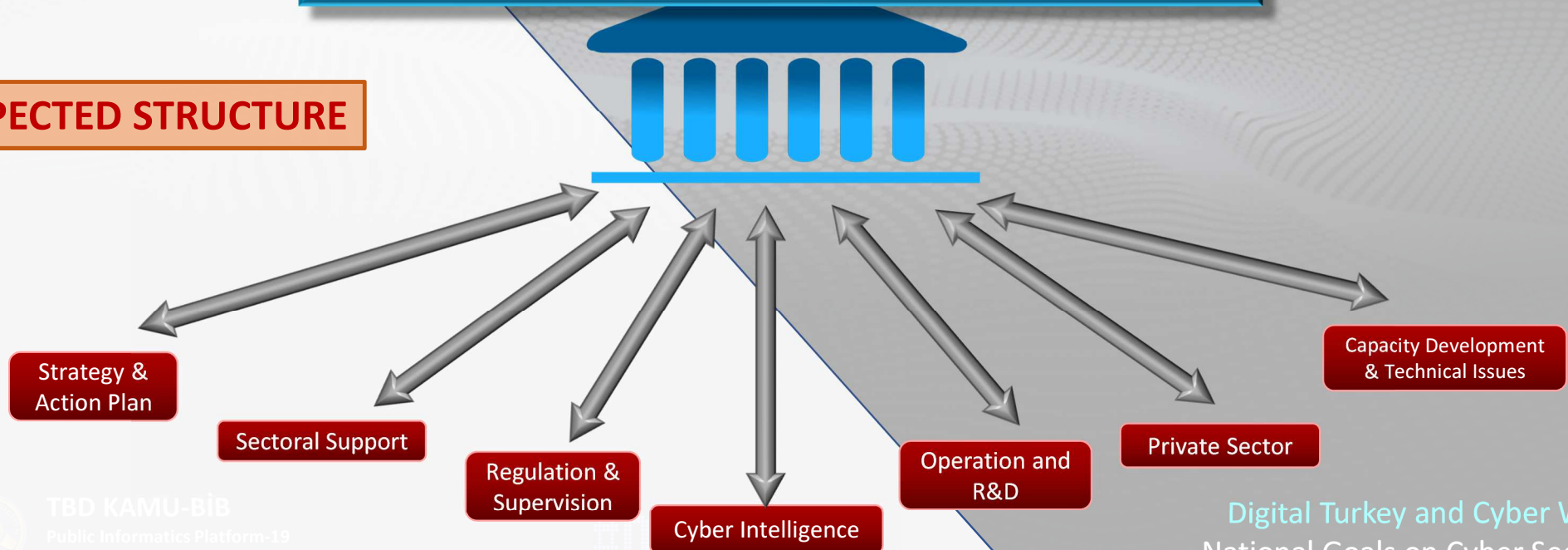
Cumhurbaşkanı Tayyip Erdoğan'ın talimatıyla başlatılan çalışmalar kapsamında, siber güvenlik altyapısının yerleştirilmesi, durum analizi yapılması ve alınması gereken tedbirler ortaya konulacak. Cumhurbaşkanı Erdoğan, FETÖ'nün 15 Temmuz darbe girişiminin ardından kurmaylarına siber güvenlik altyapısının incelenmesi için talimat verdi. Devlet Denetleme Kurulu ve Erdoğan'ın teknoloji kurmaylarının yer aldığı çalışma kapsamında Bilim, Sanayi ve Teknoloji Bakanlığı, Ulaştırma, Denizcilik ve Haberleşme Bakanlığı, Bilgi Teknolojileri ve İletişim Kurumu ile TÜBİTAK gibi kurumlarda ayrı ayrı yapılan siber güvenlik çalışmalarının tek çatı altında birleştirilmesi planlanıyor.

<http://www.hurriyet.com.tr/siber-quvenlige-tek-cati-emri-40368316>

# Future Plans on National Cyber Security Super Structure

- ✓ Top Level Coordination in Cyber Security
- ✓ Strongest support for National Solutions (Software & Hardware)
- ✓ Qualified HR Capacity Development

## EXPECTED STRUCTURE





# Latest Actions in Turkey

Establishment of  
**Personal Data Protection Authority**  
January 30<sup>th</sup>, 2017



<http://www.kvkk.gov.tr>



**National E-Mail System**  
August 07<sup>th</sup>, 2017

**Gov.NET Government Secure Network**  
Legislation: June 21<sup>st</sup>, 2017  
Included Institutions: 23%



**E-Government & Cyber Security CIO**

Chairman: Prime Minister UnderSecretary  
Participants: Undersecretary of each Ministry  
Period : Each Month, regularly (*Since March 2017*)  
Purpose : High Level Monitoring & Coordination

<http://www.hurriyet.com.tr/milli-e-posta-sistemi-geliyor-40542359>  
<http://www.edevlet.gov.tr/wp-content/uploads/2017/08/03.08.2017-e-Devlet-Koordinasyon.pdf>  
<http://www.edevlet.gov.tr/2017/08/04/agustos-ayi-e-devlet-koordinasyon-toplantisi-gerceklestirildi/>

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# Latest Actions in Turkey

**Government Integrated Data Center**  
State: Feasibility Analysis



**Havelsan**  
**Cyber Defence Technology Center**  
**(SİSATEM)**  
23<sup>rd</sup> March 2016



**STM Cyber Fusion Center**  
17<sup>th</sup> May 2016

**Turkish Armed Forces (TAF) - Cyber Defence Command**  
**Cyber Defence Operation Center**  
11<sup>th</sup> July 2017



HAVELSAN Inc. is an affiliated company of  
Turkish Armed Forces Foundation

STM Defense Technologies Engineering and Trade Inc. is  
for support services for Turkish Armed Forces (TAF) and  
Undersecretariat for Defence Industries (SSM)



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# Latest Actions in Turkey

## Government-Wide **ISO 27001 Certification**

Target: December 31<sup>st</sup>, 2018



## HR Capacity Development as **Cyber Security Expert**

Target: December 31<sup>st</sup>, 2018

## Government-Wide **Cyber Security Tests**

Target: December 31<sup>st</sup>, 2017

Scope: System & Network Penetration Test

Source Code Analysis, DDoS, Social Engineering ...



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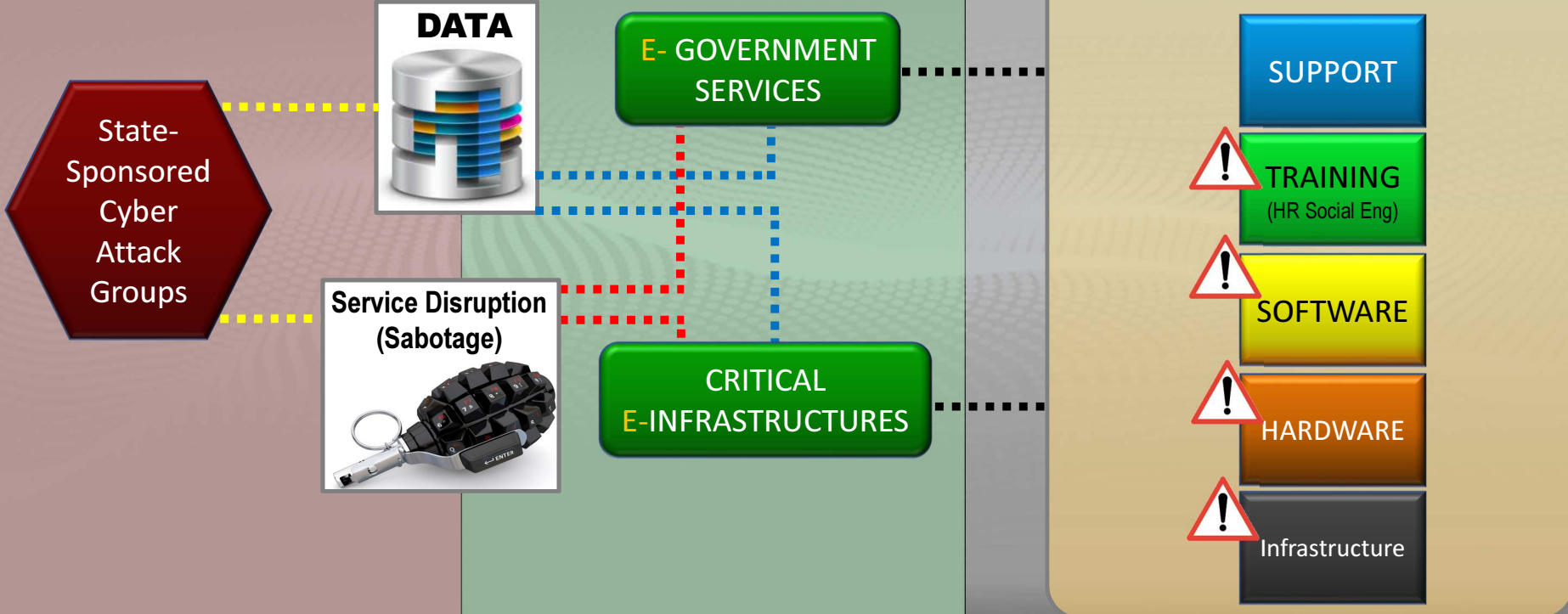
# ECOSYSTEM from E-GOVERNMENT to CYBER SECURITY

## CYBER THREAT

## TARGET

## ELECTRONICAL STRUCTURES

## MANAGEMENT



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# INTEGRATED, EFFICIENT & COMPETENT ADMINISTRATIVE STRUCTURE

## CURRENT STATE



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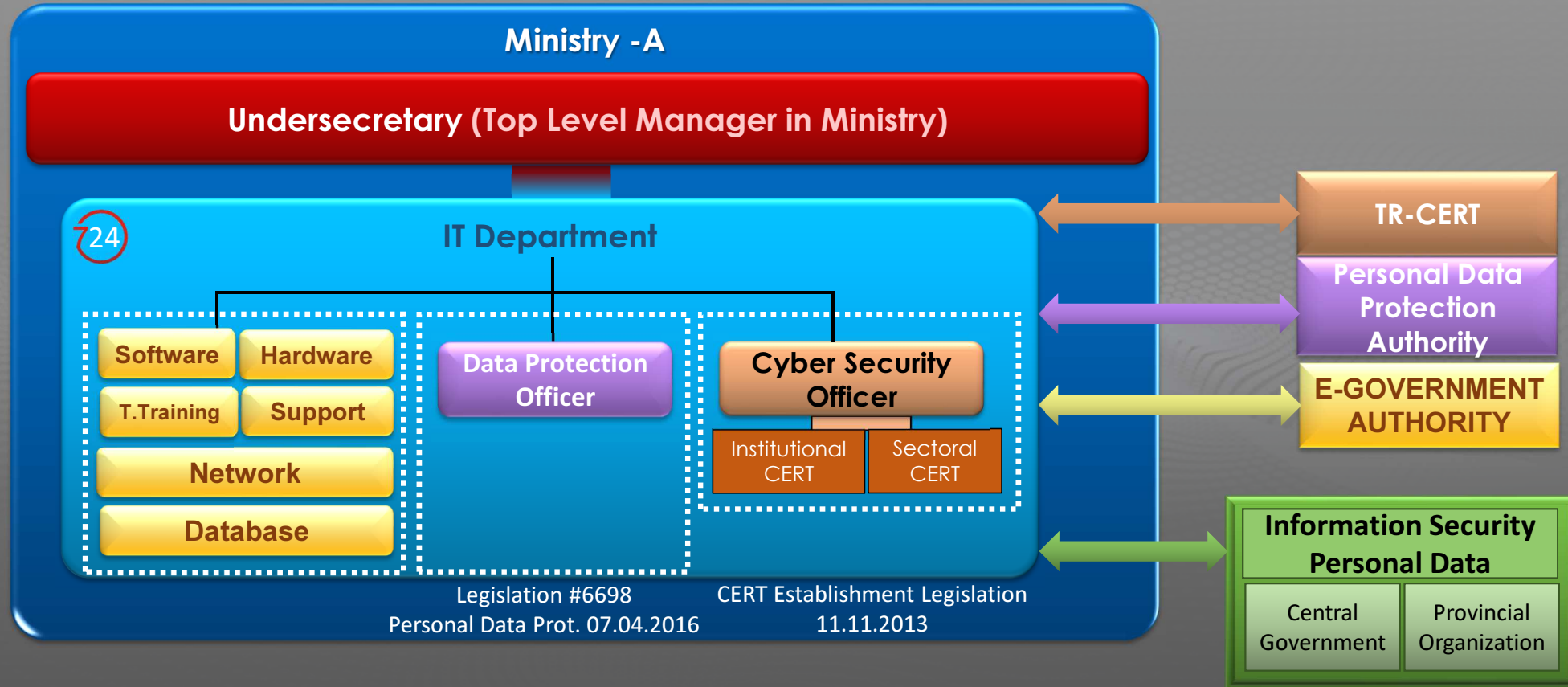
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# INTEGRATED, EFFICIENT & COMPETENT ADMINISTRATIVE STRUCTURE

## PROPOSED ADMINISTRATIVE MODEL



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# «NATIONAL» CYBER SECURITY

Softwares should have **full-source**:

Open-Source is NOT a must (source-available / shared-source) but it should NOT include and component that does not have source code

Should be developed by **National private sector**:

Government should supply **infrastructures and R&D** only

The state should not **unfairly compete** with the private sector for software development:

- The state should implement **frameworks**, libraries, national **R&D** studies and set standards that will support private sector instead of software development
- The national private sector should develop **sectoral** (health, education etc.) and **horizontal** (Electronic Document Management System etc.) software by using them
- **Exceptions** to Public Procurement Law No. 8227 - Article 3 should be re-addressed to support **competition** in the private sector
- The sector should be divided into categories by **leveling**
- The **market in the public sector** ensures the development of these categories

There should be **Sustainable** model:

There should not be **non-product-only solutions** left alone with AR-GE incentives

State-support from **technical, administrative, financial and legal** aspects



Use of **NATIONAL PRODUCTS** without exception as a **National Policy** in the public sector

**«WE WILL USE FIRST !»**

**Dissemination Policy** in Public Sector:

- «**Company Rating**» in public procurement with accreditation and certification
- Promotion Model: **R&D** → For successful results «**Production Support**» → Pilot Applications → Support & Development Infrastructure → Positioning in Public
- Current products in the first layer, **National Products** in the second layer
- After transition and maturity, national products in all layers
- At least two **National Solution Policy** in each segment
- **Regional Dissemination**





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## Thank You

## Digital Turkey and Cyber World: National Goals on Cyber Security

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