ESIA

THE VOICE OF THE SEMICONDUCTOR INDUSTRY IN EUROPE

Impact of new technologies on export controls: an industry assessment

Export Control Forum, December 13th, 2018, Brussels

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  - The industry of the future
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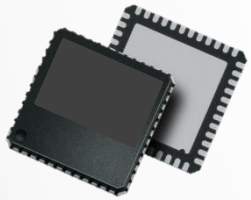
European Semiconductor Industry Association

- ESIA represents the European semiconductor industry & advocates for its competitiveness
- Semiconductors
  - ✓ Enable sectors in which EU has competitive advantage: automotive, secure IT, etc.
  - ✓ Enable 30,000 US$ BN downstream products and markets.
  - ✓ Cutting-edge technology & products, many of which classified as Dual Use
  - ✓ Global industry and global supply chain. Need to minimise administrative burden.



"The Semiconductor Voice of Europe"

ANIE Federazione · BOSCH · FEI Fachverband der Elektro- und Elektronikindustrie · Fraunhofer Mikroelektronik · intel · imec · infineon · Micron · Amkor Technology · GLOBALFOUNDRIES · leti · LFoundry · Fondazione Bruno Kessler · TDK · NXP · RENESAS · ST life.augmented · ROHM Semiconductor · Texas Instruments · X-FAB Mixed-Signal Foundry Experts · ZVEI Die Elektroindustrie

New Technological Developments: Industry of the Future

Position, navigation & timing technology

Microprocessor technology

Logistics technology

Robotics

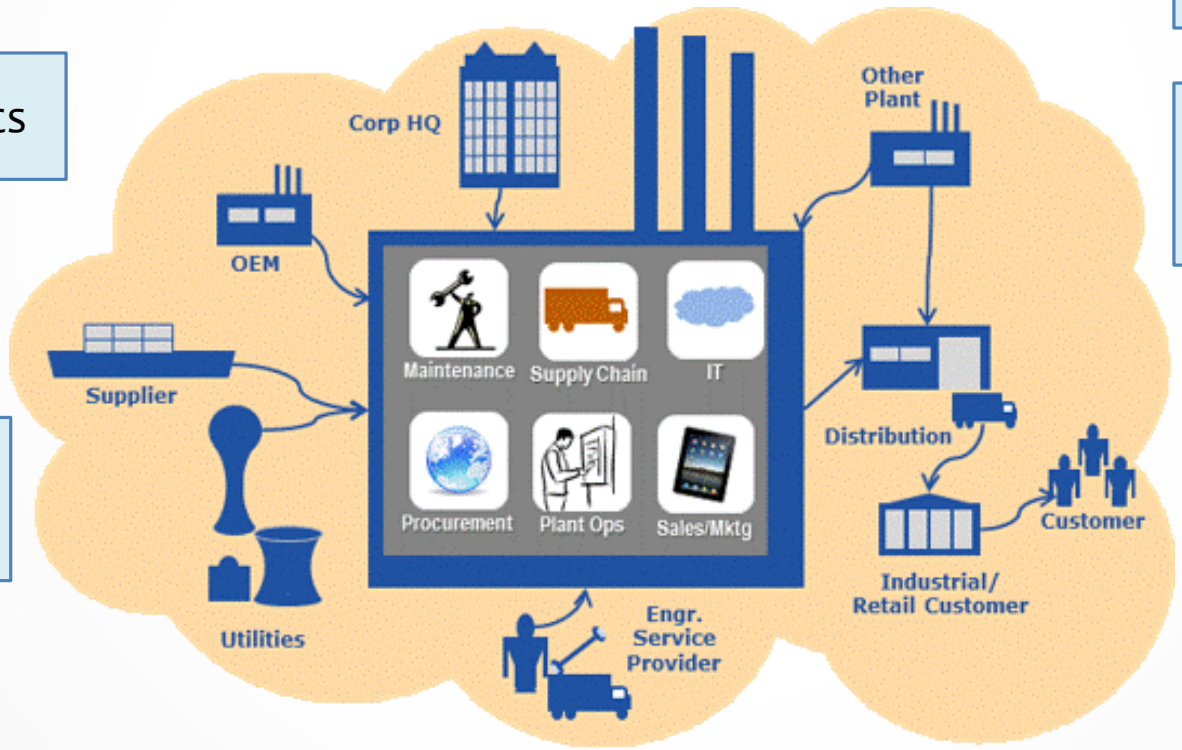
New developments in Cryptography

Artificial Intelligence

Data analytics technology

Advanced Computing Technology

Blockchain



Connected Intelligent Factories Offer New Value Chain Models

Source graphic: ARC Advisory Group

New Technological Developments: The Car of Tomorrow

Autonomous Driving

› Advanced driver assistance

- Artificial intelligence (e.g. deep learning)
- Sensor technologies (e.g. radar)

Connectivity

› Communication & data exchange

- Car-2-Car (e.g. Platooning)
- Car-2-X (e.g. infrastructures, cloud services, edge computing)

Advanced Security

› Data Security solutions

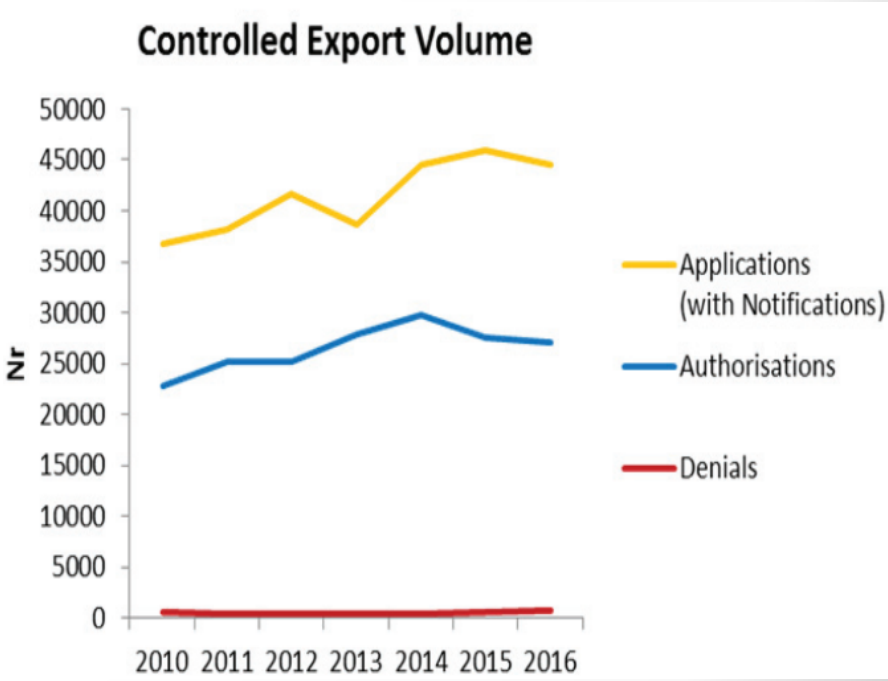
- Combined HW & SW Cryptography (e.g. for secure authentication)
- Blockchain (e.g. IOTAs Tangle-System)

Impact on Export Controls

- Existing controls shall be reviewed in order to reflect the stand of technology
  - Exclude commonly used technologies (e.g. Cryptography technology)
  - Base identification criteria on specific technology application
- Assessment of new technologies with regard to potential new controls:
  - Potential new controls to be defined in collaboration with the industry

Impact on Licensing Procedures:

- Increase of license applications expected in the next years:
  - **> 45.000** license applications in 2016
  - Only a **few denials** since 2010: Review reason for control!
  - **100 million Euro**: Cost of licensing in the EU in 2015*
  - Up to **3 months & more** in certain Member States



Source: European Commission, 25th E.C Seminar, 26 Feb 2018

*Source: European Commission, "eLicensing project", Export Control Forum, 19th December 2017.

Digital Licensing: a possible solution

- Digital Licensing could significantly ease exporters' and authorities' work

- Possible functions of a **digital licensing platform**:
  - Apply for all type of authorizations foreseen by Reg. 428/2009
  - Request information on Dual Use exports (Zero Notice)
  - Check licenses applications status, apply for extensions, duplications, etc.
  - Generate reports, submit feedbacks
  - Information platform for end-users
  - Exchange platform between exporters & national licensing Authorities

- Prerequisites of the **digital license**:
  - Electronic signature: no paper license
  - Upload function for supporting documents

Conclusion

- New technological developments…
  - … will revolutionise the industry & its manufacturing methods
  - … will greatly affect commercial markets, such as automotive
  - … will oblige us to adapt export regulations
- Therefore,
  - Listed products must reflect new technology stand in order to avoid obsolete controls and reflect export control needs.
  - Licensing framework has to be modernized and standardized to increase efficiency & competitiveness of EU industry

Thank you for your attention!

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