

Confidential



Information Security @ suppliers

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Sector Security Risk Manager of SS&P

November 18th, Eindhoven, Isaca Zuid

ASML

ASML in 35 years

ASML



Our story begins in the Philips lab in 1984

Humble beginnings make for a strong can-do culture

ASML



Started as a
joint venture
by Philips
and ASMI

Just 31
employees—
with a can-do
attitude

It took a
decade of
perseverance
to break into
the market

Innovation and perseverance have brought us to here

ASML



All major
chipmakers
use ASML's
technology

Europe's 2nd
biggest tech
company by
market cap
(100B€+)

Annual R&D
budget
around 2B€

It's hard to imagine a world without chips

ASML



ASML makes the machines for making those chips



- Lithography is the critical tool for producing chips
- 2018 sales: €10.9 billion
- Almost 25,000 employees (FTE) worldwide, out of which more than 9,500 in R&D

Total net sales € million by End-use



As of January 1, 2018, ASML has adopted the new Revenue Recognition Standard (ASC 606) and Lease Standard (ASC 842). The comparative numbers 2015 - 2017 presented above have not been adjusted to reflect these changes in accounting policy.

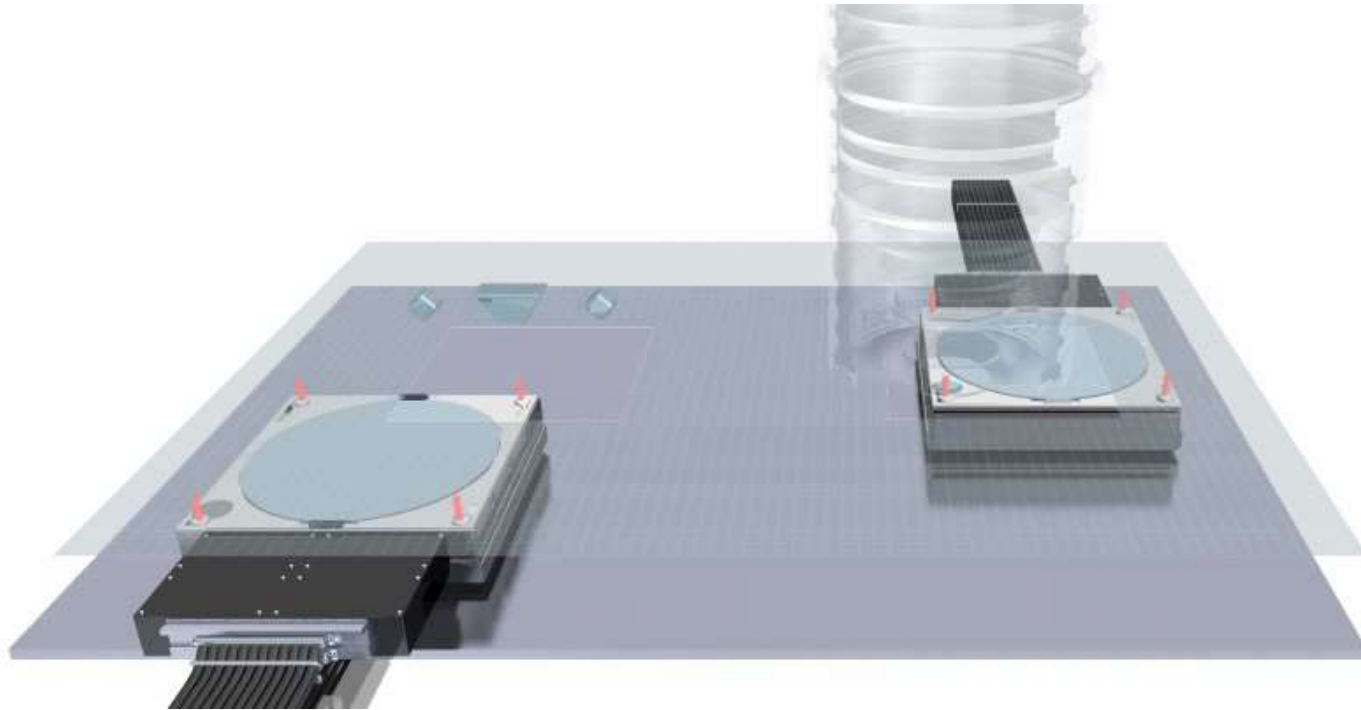
ASML makes the machines for making those chips

ASML



Key innovation: TWINSKAN

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Suppliers

Sustainable relationship with suppliers

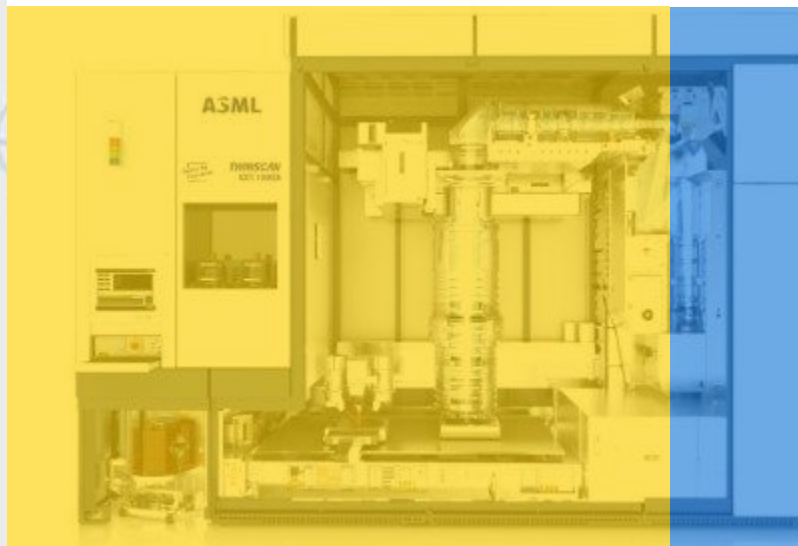
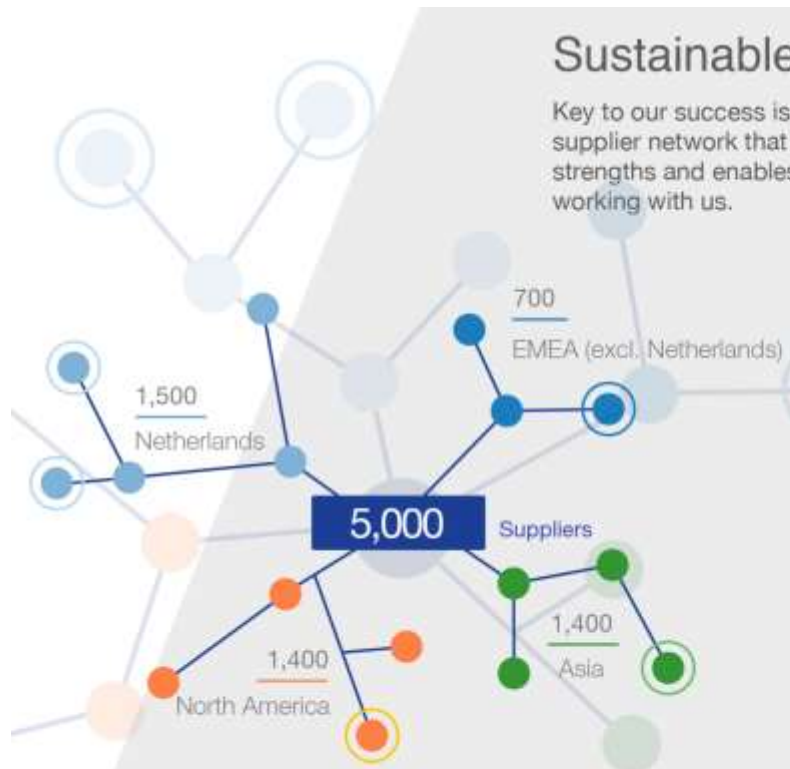
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Sustainable relationship with suppliers

Key to our success is our ability to build a world-class supplier network that enables us to concentrate on our core strengths and enables our suppliers to gain fair benefits from working with us.

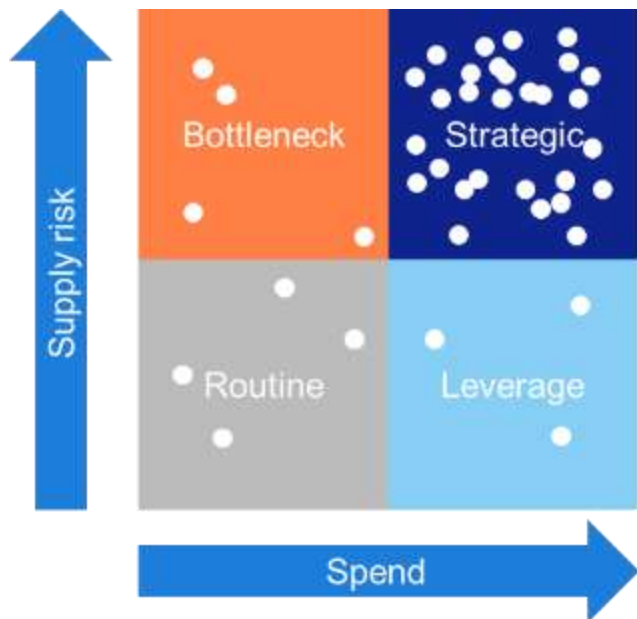
suppliers

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85% of our systems are procured

Our sourcing model is not the classic Kraljic matrix



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To
part ownership

To
full ownership



**As our customers have
a stake in ASML**



What drives value for our customers?

MAKE IT WORK	Execute the roadmaps
MAKE IT WELL	Deliver quality products and services
MAKE IT TOGETHER	Align customers, suppliers and peers
MAKE IT WORTH IT	Improve cost per function / return on investments
MAKE US GROW	Develop our people and processes

Information Security

Challenge in Information Security



Medieval city with city wall

Process is captured in a single tool

ASML

43% of data input
is automated



Financial expert
ratings

Global risk indicators

Supplier profile scores

Vendor master- and
contract data

Sourcing Lead completes
assessment

A screenshot of a software interface showing a table with multiple columns and rows. The table contains various data points, including numerical values and text descriptions, representing a sourcing lead assessment.

Ownership,
dependency

Intellectual property
ownership

Legal, compliance

Recovery times

Category Manager
reviews risks & plans

A screenshot of a software interface showing a table with multiple columns and rows. The table contains various data points, including numerical values and text descriptions, representing a category manager review.

Sourcing Lead drafts
plans with experts

Finance

Legal

CIP

Standard reporting incl.
red flags in place



SS&P staff ensure
decision making is in line
with agreed governance

A screenshot of a software interface showing a table with multiple columns and rows. The table contains various data points, including numerical values and text descriptions, representing standard reporting.

Process is based on a preliminary governance model

Process map with RACI has been drafted



- A process map with RACI has been drafted and is embedded into the Procurement process framework
- Risk review meetings will be scheduled

The main supplier risk domains are in scope



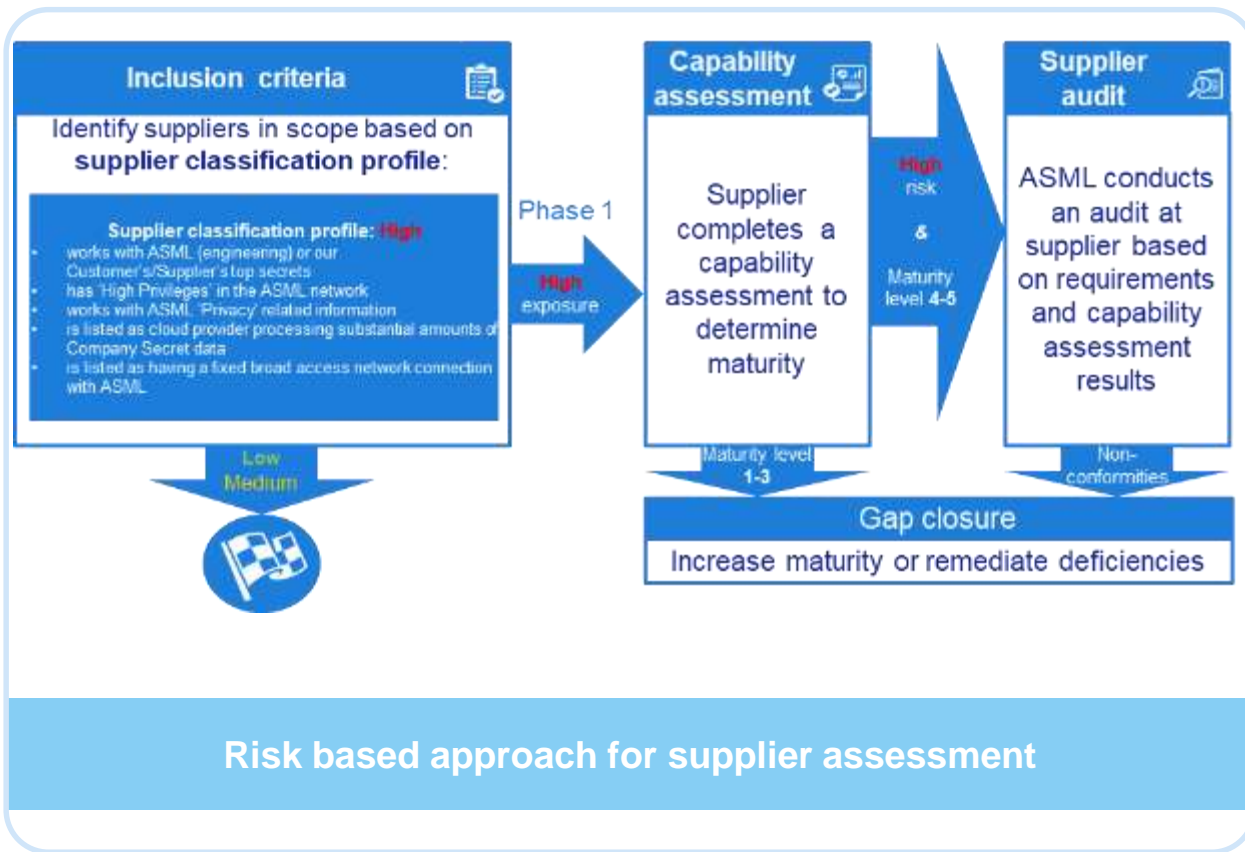
- 6 risk domains are assessed – calamities, financial stability, ownership, IP ownership, information security and compliance
- Typical mitigative responses are commercial interventions or supplier development.

Rules defined to escalate risks to the appropriate management levels



- A risk appetite dialogue sets the threshold for scoping and risk level categorization
- Mitigation plan approval levels based on risk level categorization
- Red flag reports are available per risk domain

Supplier Risk Management



Supplier Risk Management

- Inclusion of suppliers is risk based
- Questionnaire answered by supplier
- Outcome of questionnaire validated and used for further actions
- Maturity of supplier determines how to proceed

Inclusion based on impact



(Engineering) Top Secrets



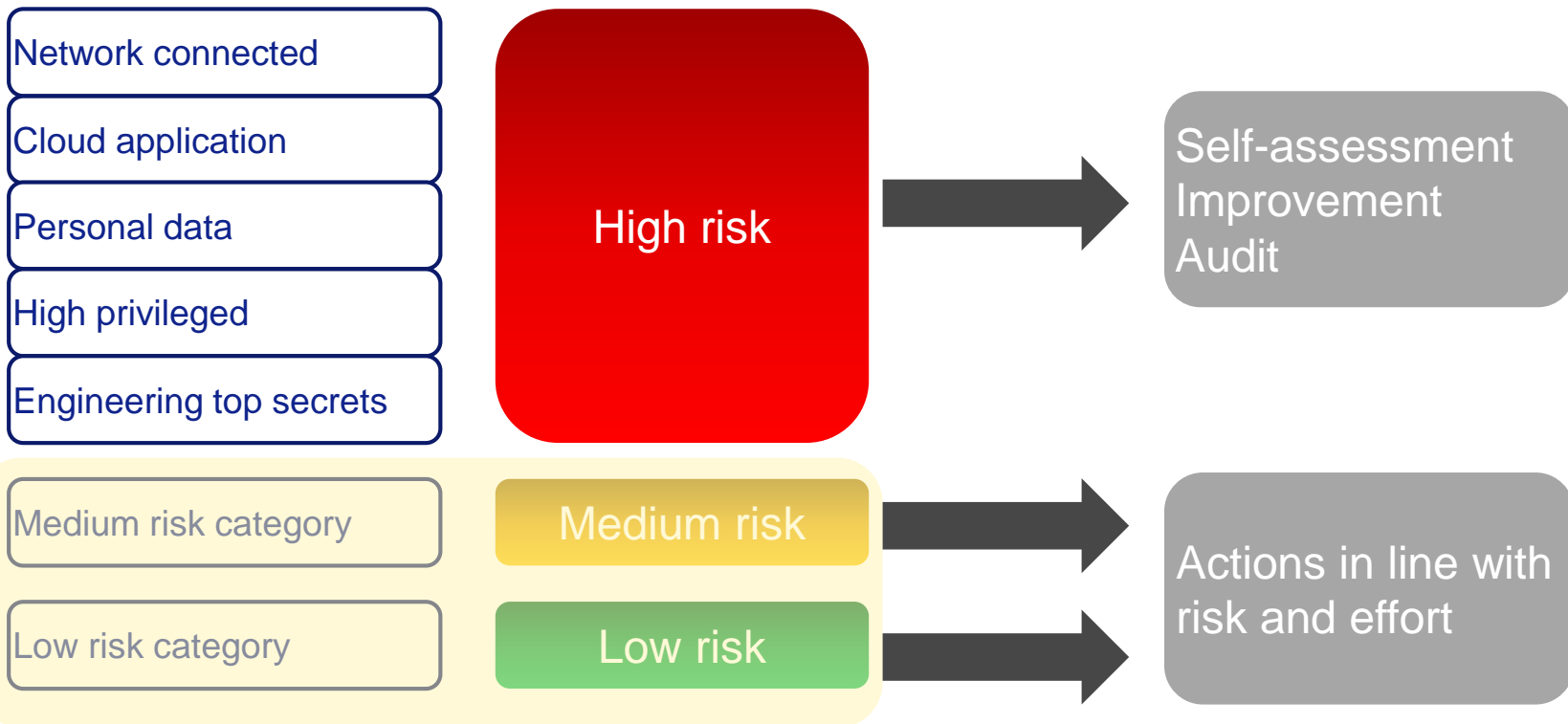
Network connected suppliers & high privileged



GDPR and cloud

Information security – What are we doing

Inclusion based on risks



What is expected of suppliers?

Draft Information Security areas (based on ISO27001:2013)



Information Security
Management System (ISMS)



Human Resources Security



Access Control



Cryptographic Controls



Physical Security



Operations Security



Logging & Monitoring



Control of Software



Network Security /
Information Transfer



Network & Mobile Security



Development & Support
Security



Supplier Information Security



Information Security Incident
Management



Information Security /
Business Continuity



Compliance



Information Security Review

ISO 27001 combined with maturity Levels



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Information Security Management System (ISMS)

Is your company ISO 27001 certified?

If not, do you have an information security management system in place according to ISO 27001 or similar standard?

ISMS activities are performed ad hoc.

ISMS activities are performed based on limited guidance and best effort.

Typical evidence:
Informal ISMS instructions / guidelines

ISMS activities are performed based on defined and documented practices.

Typical evidence:
Defined ISMS processes and supporting materials (e.g. risk register for action tracking etc.)

ISMS activities are performed based on formal practices that are periodically reviewed and its effectiveness measured.

Typical evidence:
Approved and up-to-date ISMS policy (including governance setup) Information Security dashboard (project status, Information Security insights)

ISMS activities are performed via an automated GRC solution, the organization's ISMS is certified.

Typical evidence:
ISO 27001 certificate

Please indicate your type of evidence:

Submit Survey

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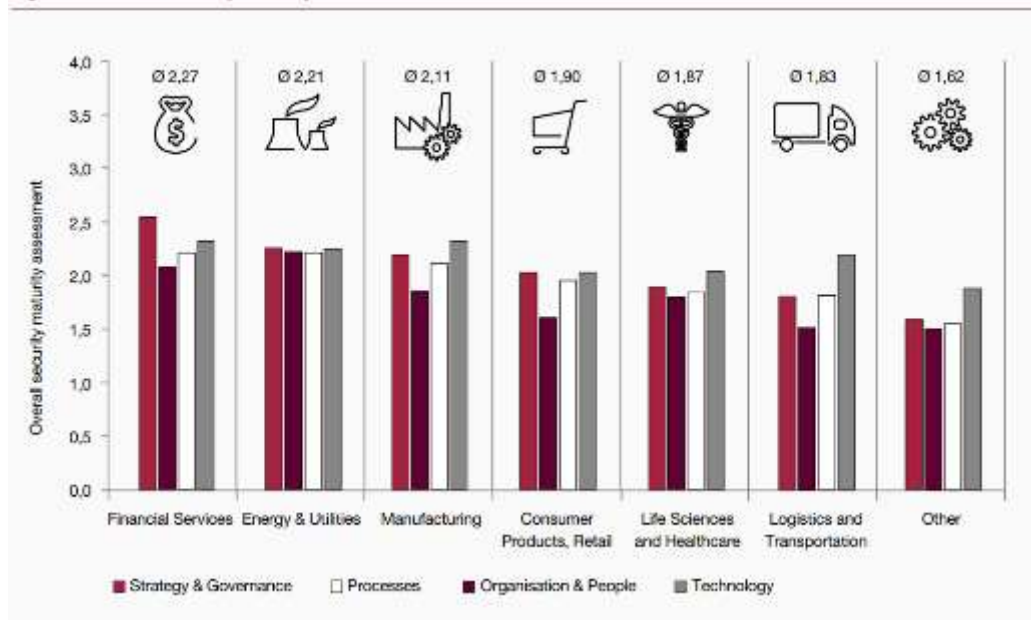
InfoSec questionnaire based on ISO27001

Information Security Survey

- Based on ISO 27001
- Suppliers included
- Cloud application for survey management
- SharePoint solution for monitoring outcomes & progress on improvement plans

ISO 27001 Maturity (status 2017)

Figure 23: Overall security maturity assessment

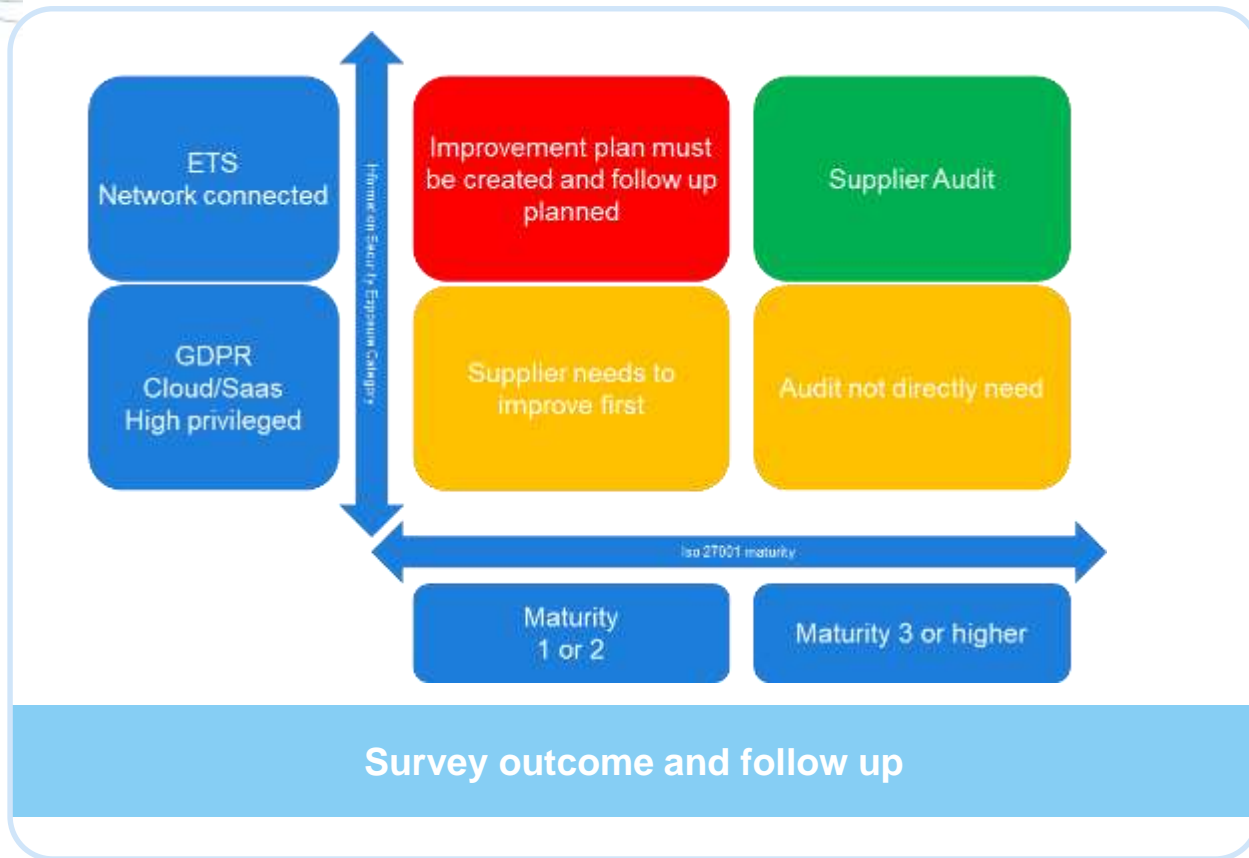


CapGemini Information Security Benchmark

CapGemini survey 2017

- 101 respondents
- Overall average is 1,97
- Level 2 can be expected
- Level 3 might be within reach for suppliers

Information Security Capability Framework

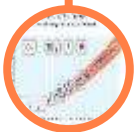


Survey Outcome

- Balancing risk management
- Survey outcome
- Information Security Exposure
- Combination determines follow up priority
- Suppliers with audit reports mostly GDPR/Cloud/IT suppliers

We continue to invest in our suppliers and people

Our culture and business sector



To contribute to this world of exponential improvement



In close relation with suppliers



Act now with the future in mind



Where supplier development is not just a buzz word – it is a necessity

Welcome to our world

The image features the ASML logo in a bold, dark blue, sans-serif font. The logo is positioned on the left side of the frame. The background is a light blue gradient with abstract, flowing white lines that resemble waves or stylized data paths, creating a sense of movement and technology.

ASML

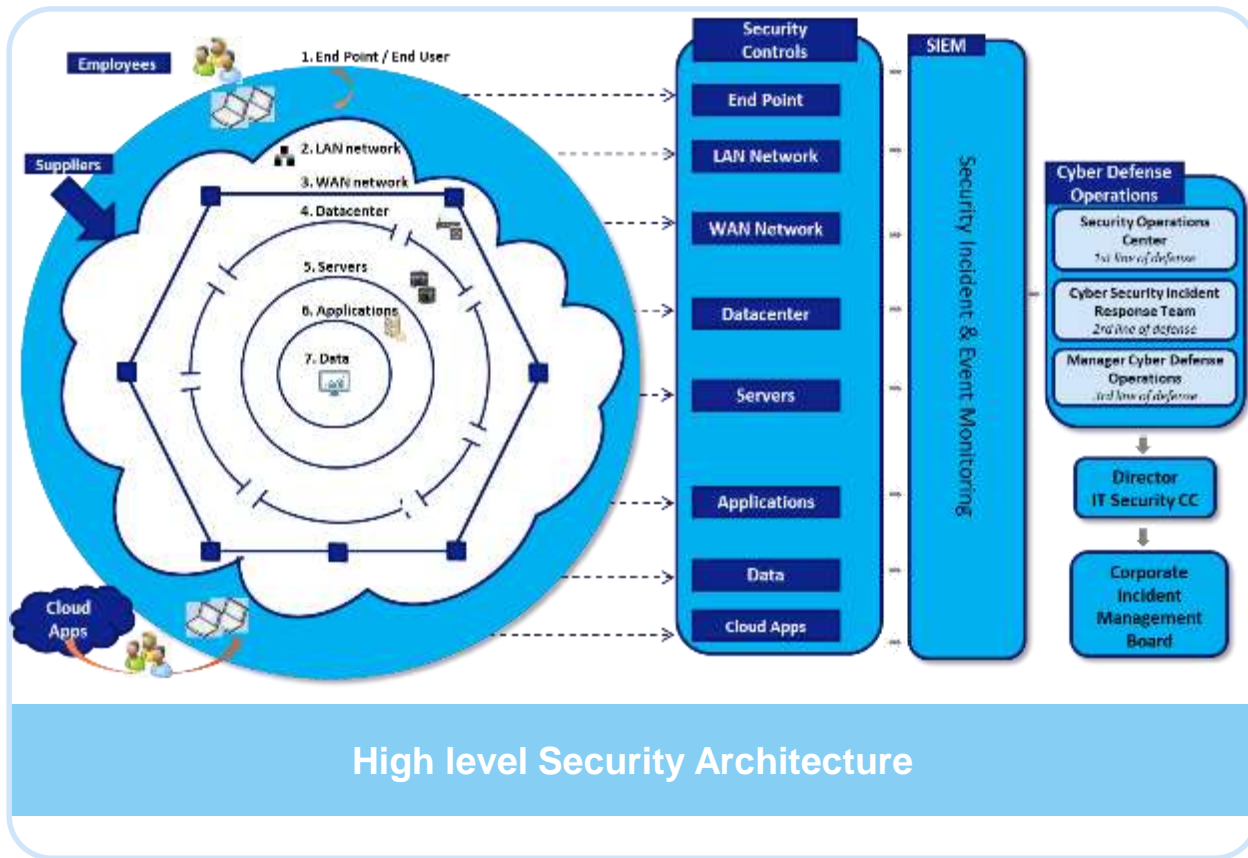
ASML engineering intellectual property is critical



Patent wall at the experience center

Engineering Top Secrets and IP

- Information exchange is needed
- Work together with supplier on new technology
- New technology can be patented but has to follow IP process



Security Architecture

- Layers of defense
- Security controls for each layer
- ASML IT Infrastructure is network level connected with suppliers
- High privileged suppliers for outsourced activities