



DevSecOps in Telco:

Full Lifecycle Management of Security Tools for Better R&D

Luca Bongiorno

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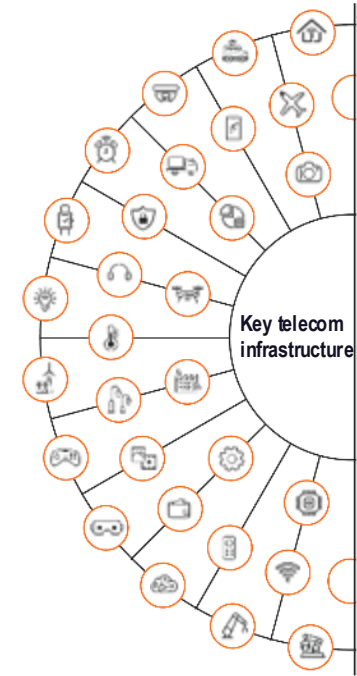
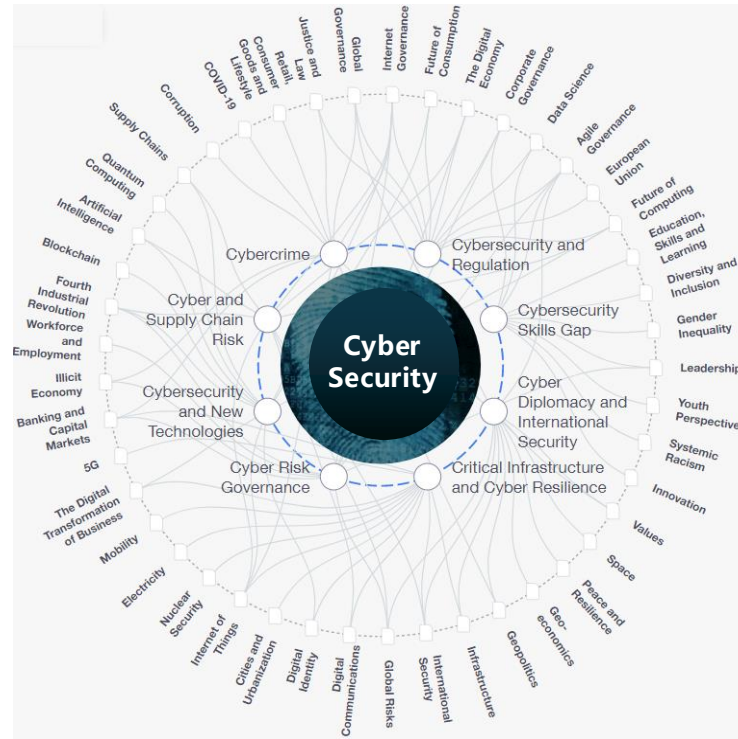
Cybersecurity Landscape is Widening

The diagram shows four vertical red cones of increasing width and transparency from left to right, representing the progression of a cyber threat. A horizontal line at the top is labeled "Surface".

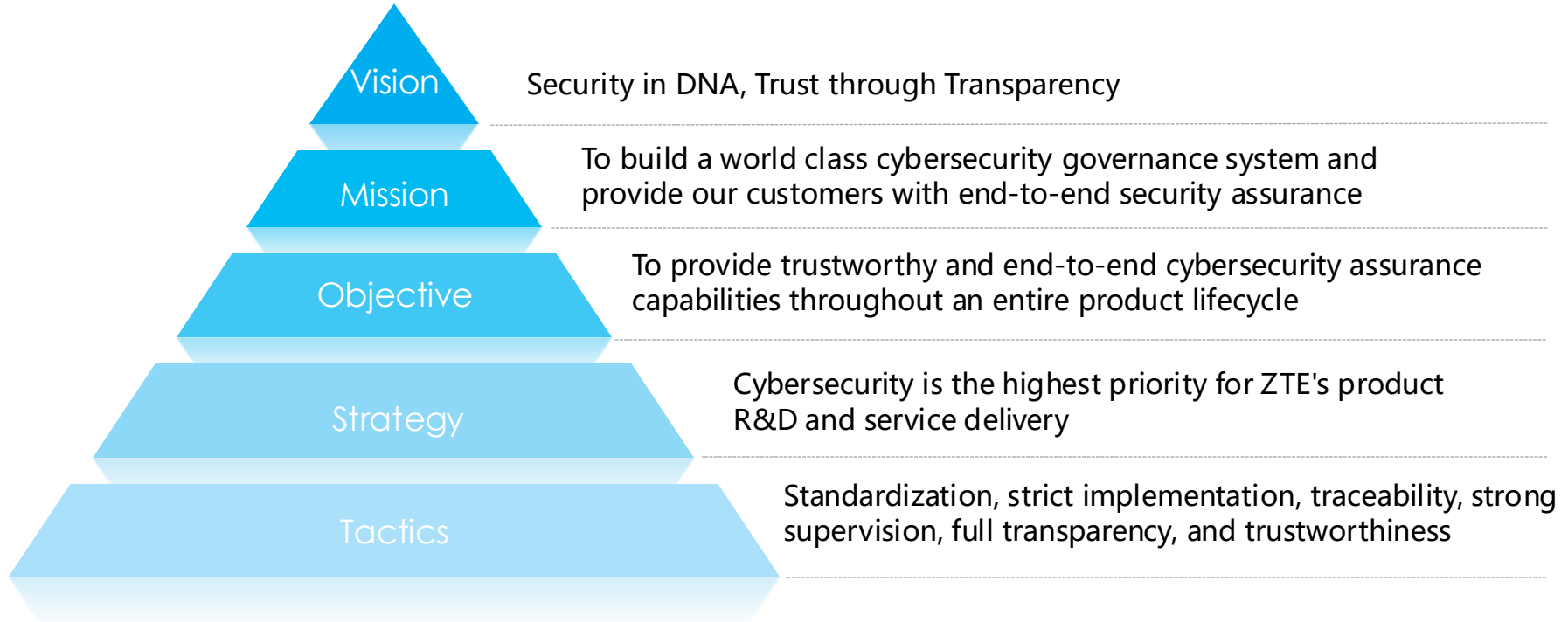
- Unintended consequences:** The first, narrowest cone.
- Cascading harm:** The second cone, wider than the first.
- Increasingly grave consequences:** The third cone, wider still.
- Widening attack surface & increased threat:** The fourth, widest and most transparent cone.

Annotations on the right side of the diagram:

- New attack vectors:** Indicated by a bracket pointing to the top of the fourth cone.
- Opacity and propagation:** Indicated by a bracket pointing to the lower, more opaque part of the fourth cone.



Vision and Mission of ZTE Cybersecurity



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- DevSecOps in ZTE
- Security Tools - Lifecycle Management & Reliable Use
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Status Quo of DevSecOps in Telco

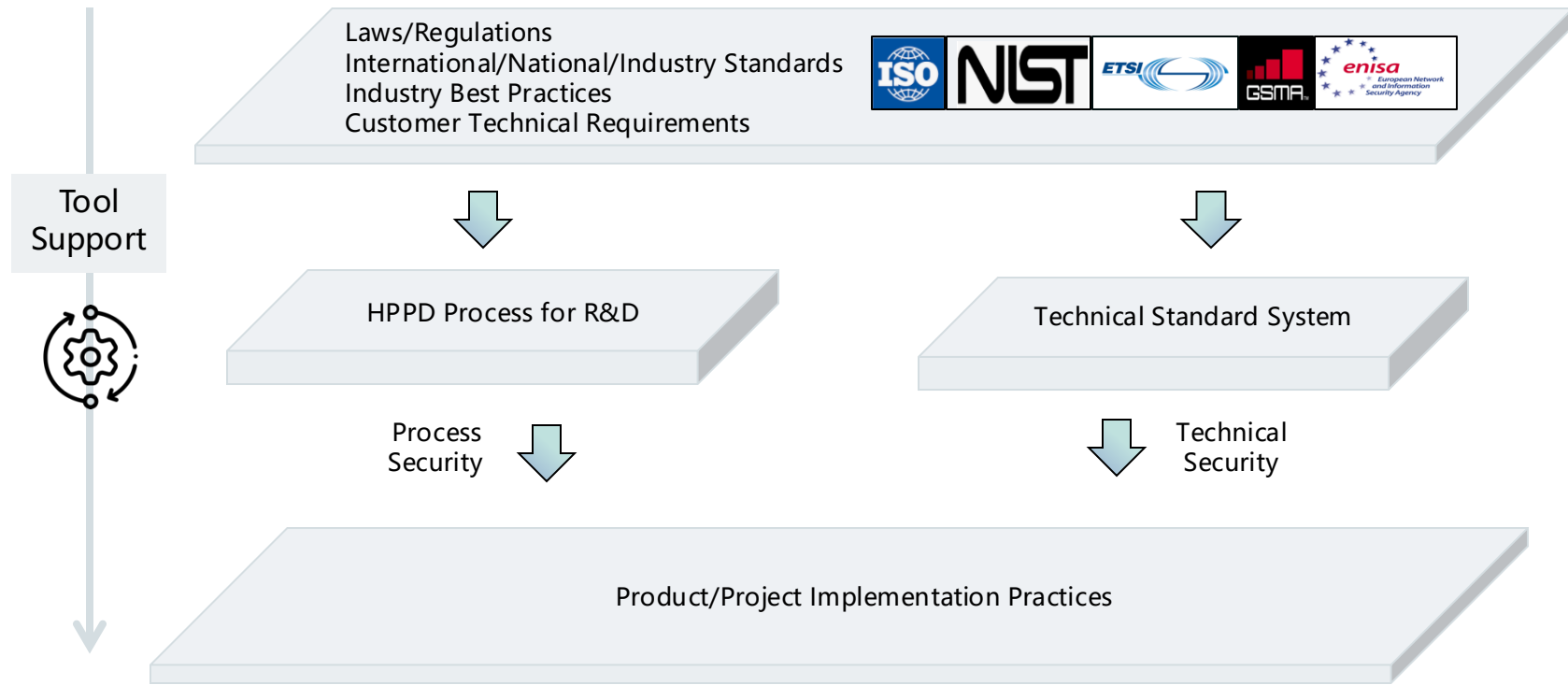


Transitioning from DevOps to DevSecOps brings changes.

ICT complex product categories requires customized pipelines to facilitate automation.

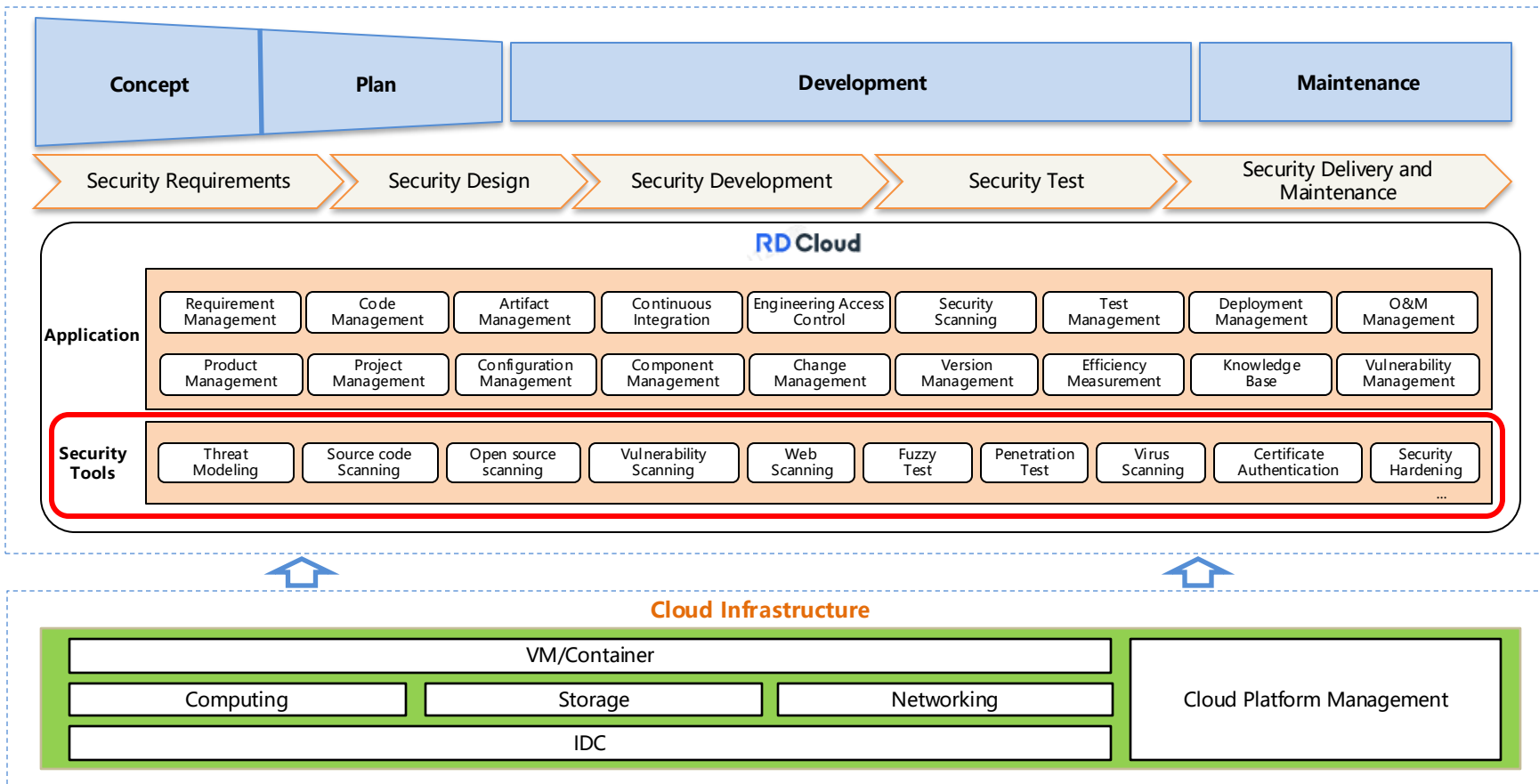
Vulnerability scanning tools only find known Issues. Not all business needs can be covered by current commercial tools.

From Up to Bottom, Process Security & Technical Security



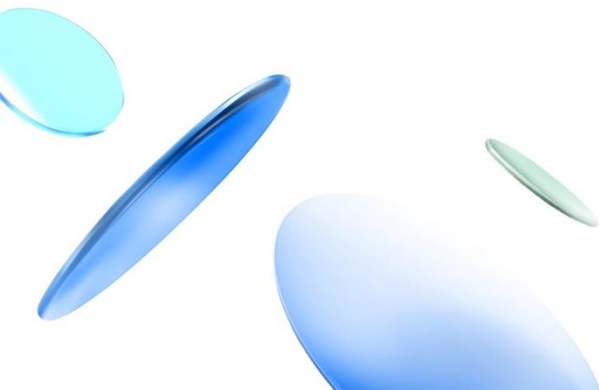
*HPPD - High Performance Product Development: ZTE's product development lifecycle processes

Digital Infrastructure Supports the Entire R&D Process

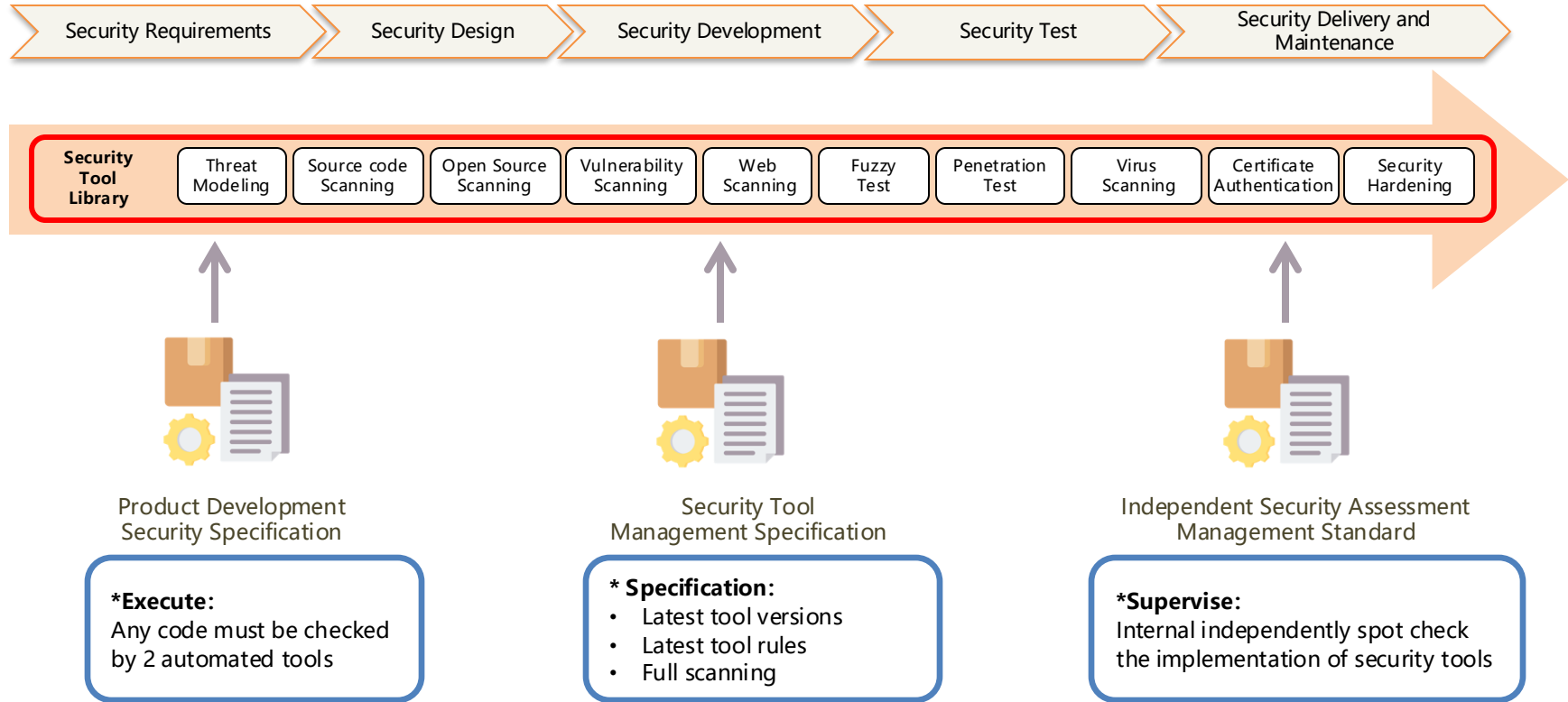


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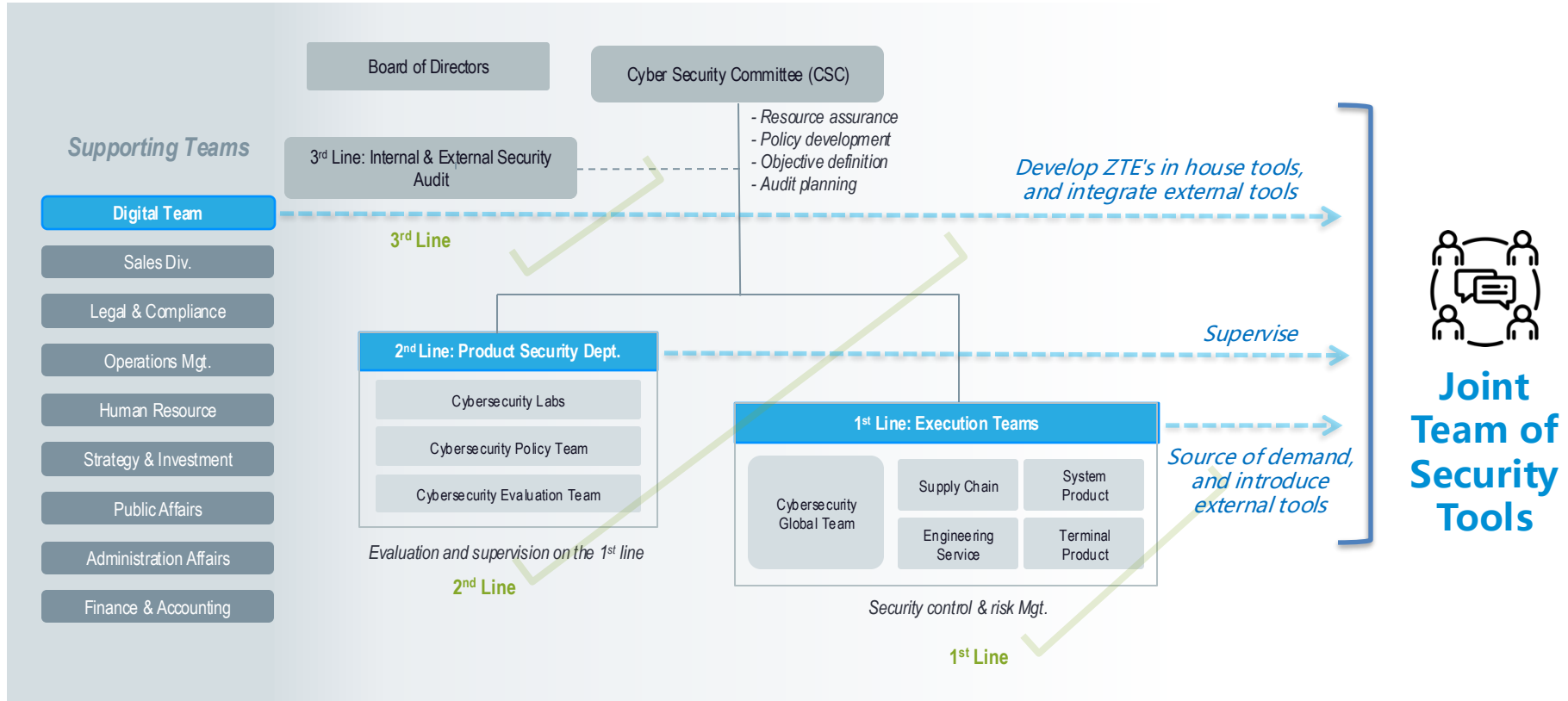
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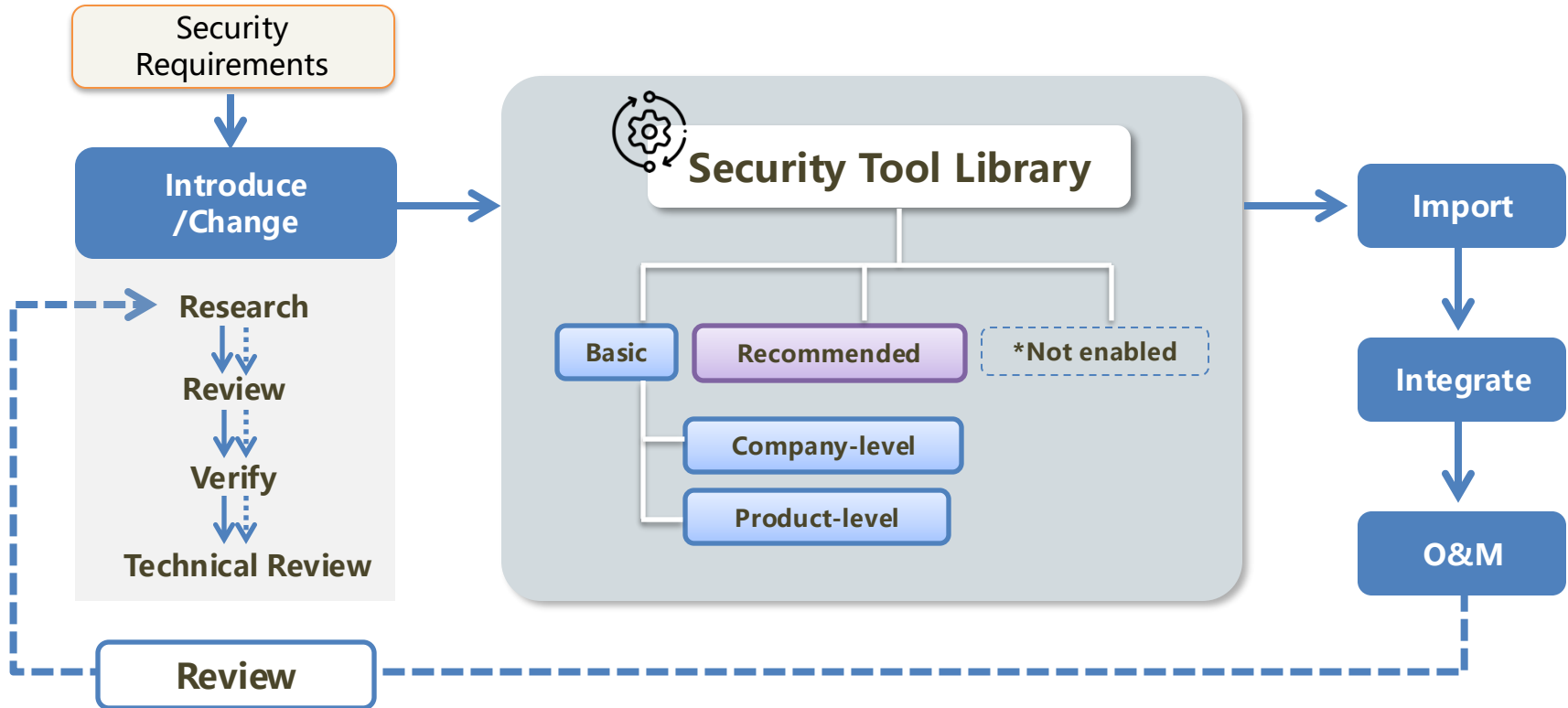
Full Lifecycle Covered, Reliable Use



Three Lines Structure of Cybersecurity Governance

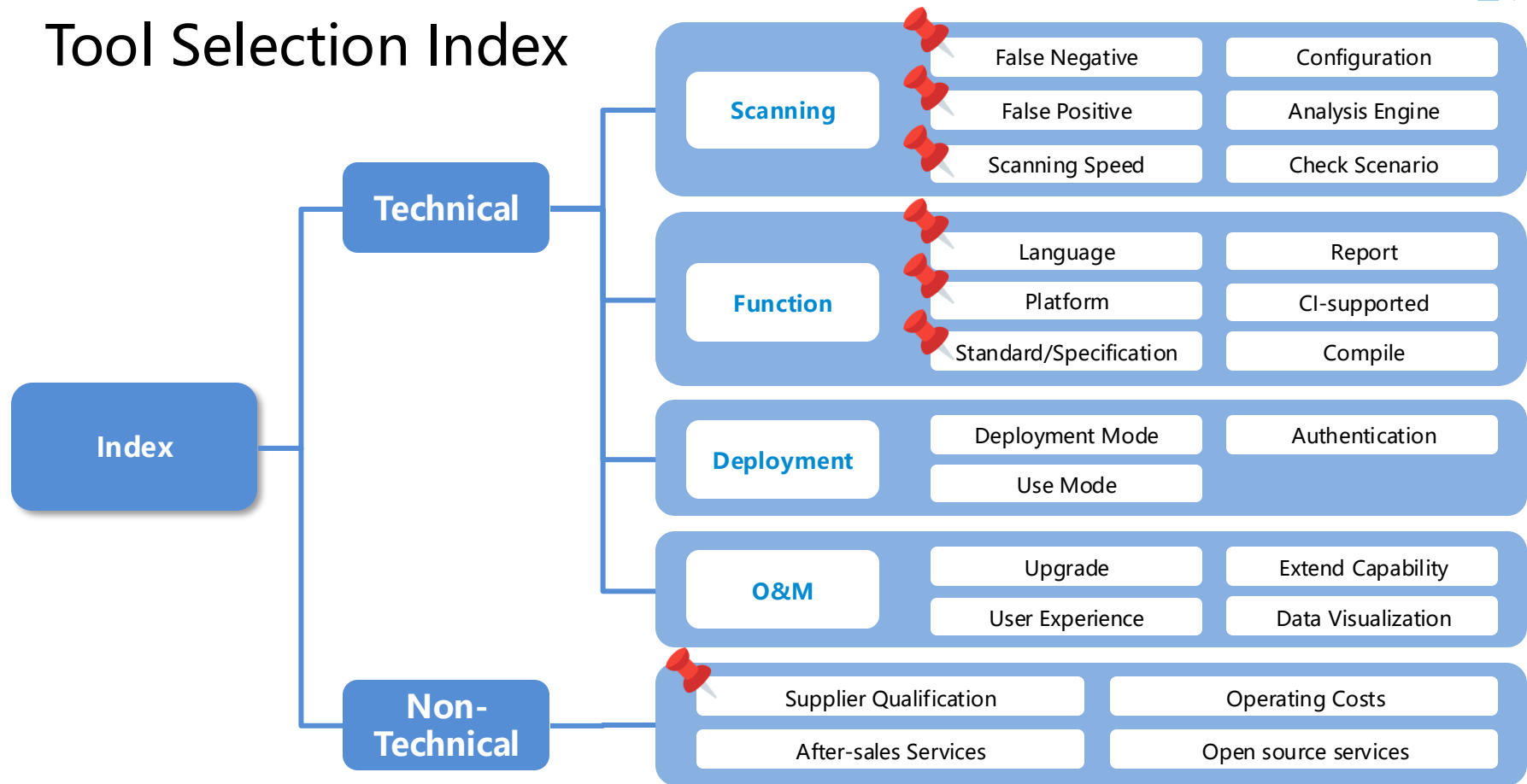


Lifecycle of Security Tool Management



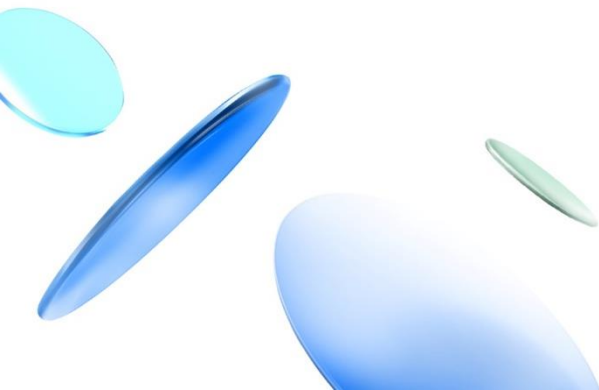
**Not enabled: Includes the components which are researched but not yet commercially purchased, or dumped but records retained.*

Tool Selection Index

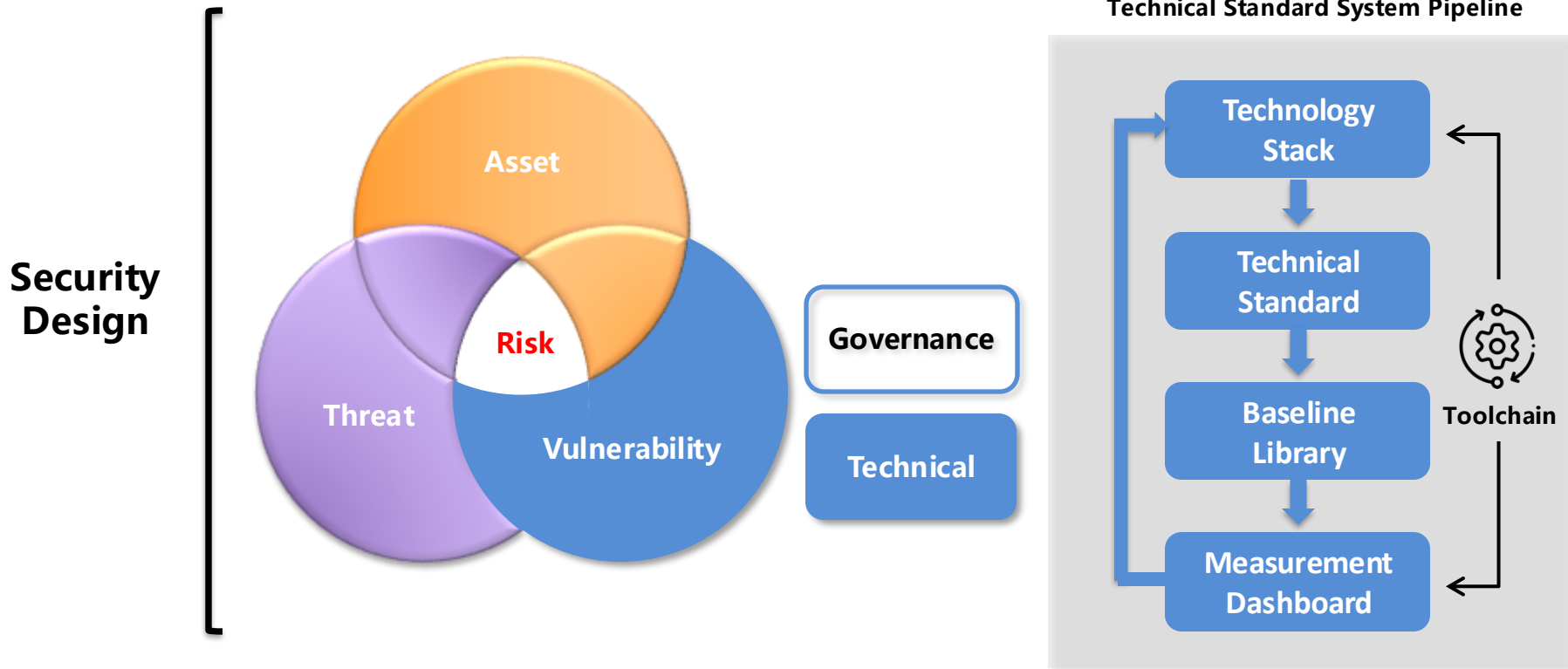


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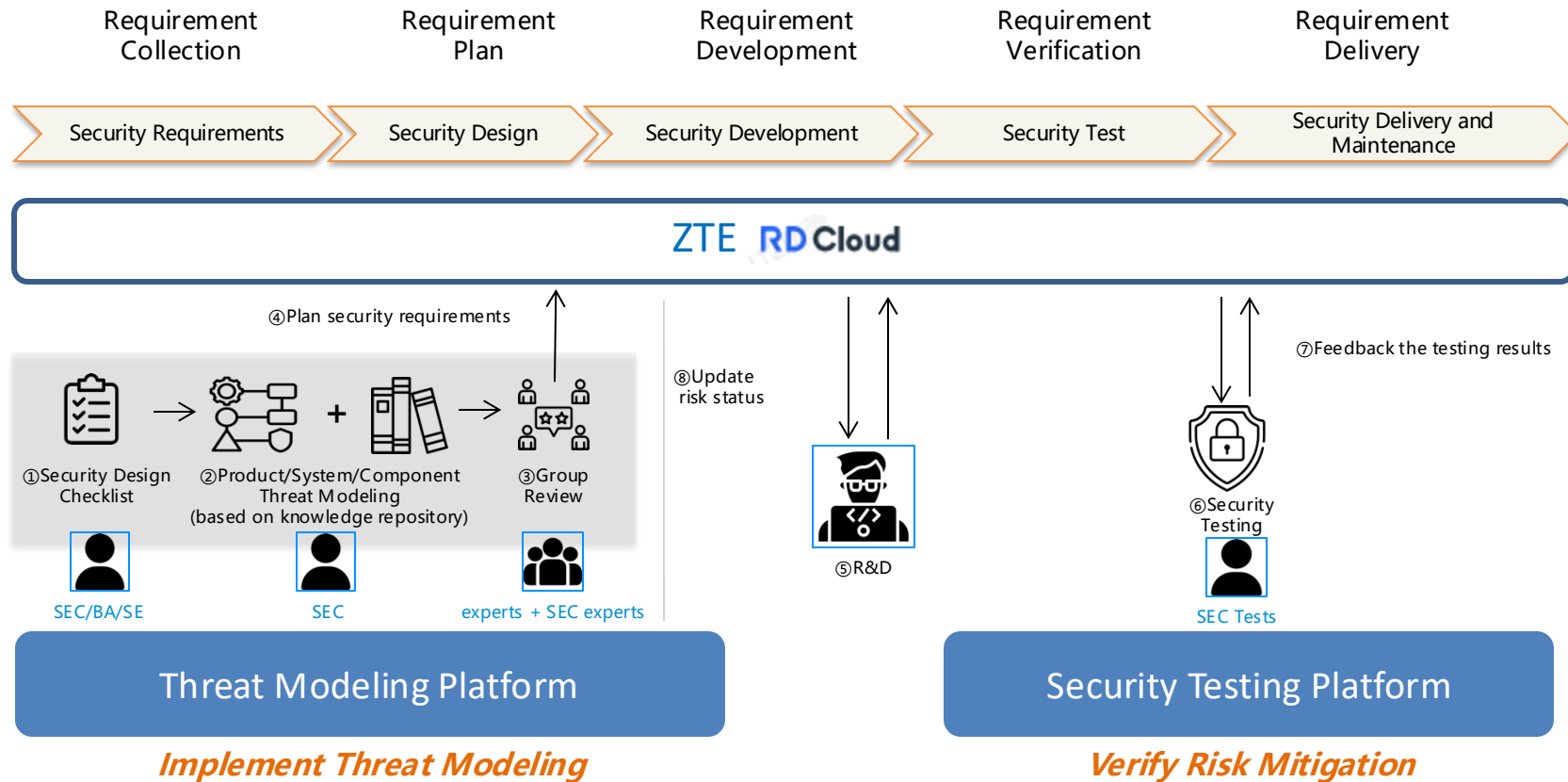
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Telco's Case 1: Technical Standard System Toolchain



Telco's Case 2: Threat Modeling Implementation & Verification

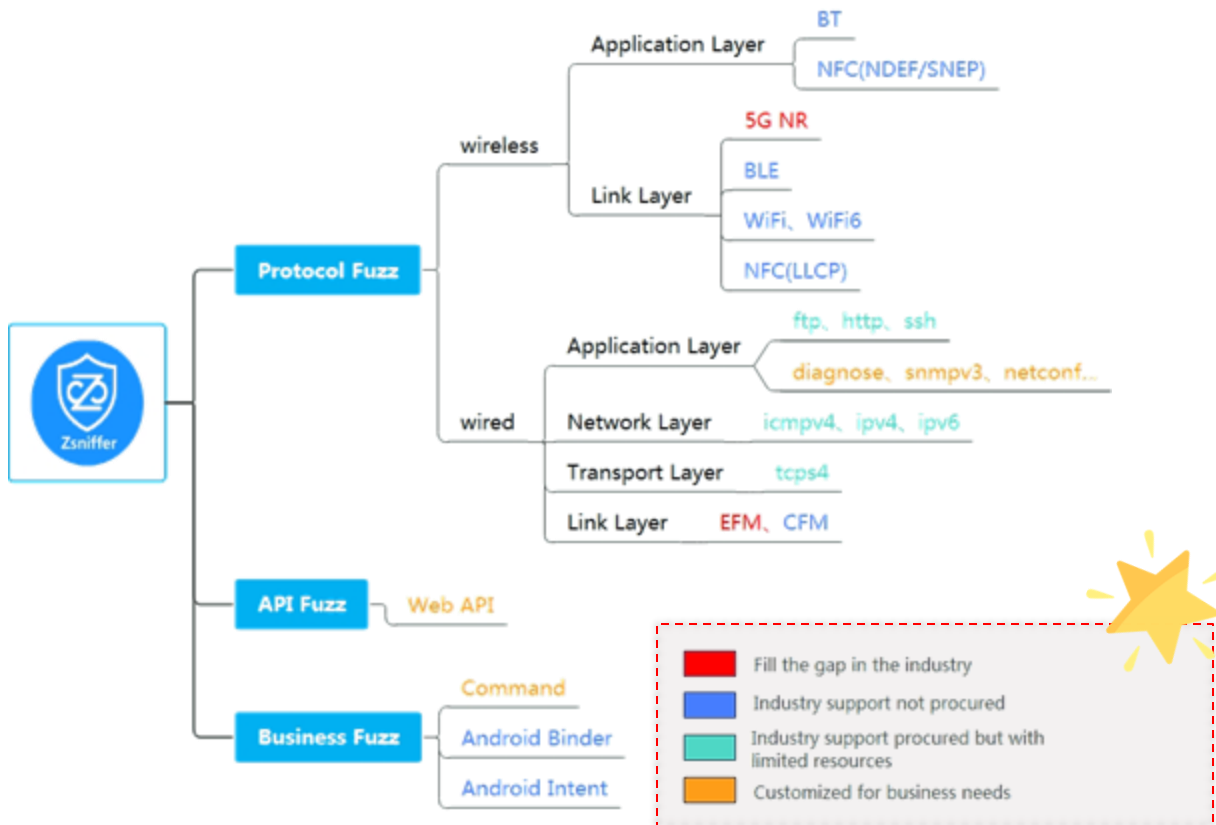


Telco's Case 3: Customized CI Pipeline

Target	Scope of Protection	Verify CI	Gate CI	Merge CI	Version CI
Module /Component	Code Submission	√			
	Code Programming	√			
	Code Compile	√	√	√	√
	Code Static Scanning	√	√		√
	Code Duplication	√			
	Cyclomatic Complexity	√		√	
	Incremental UT/FT Coverage	√			
	UT/FT/CT Pass Rate	√	√	√	√
	ST Pass Rate		√	√	√
Version	System Scanning				√
	Virus Scanning				√
	Autoregression				√
	Open Source Scanning				√
Product	Joint Products Autoregression				√

*Note: The scope of protection items can be customized chosen according to requirements.

Telco's Case 4: ZTE's in-house Fuzzing Tool





Zsniffer



Front page / Front page



Front page



API



Wire protocol



Wireless protocol



Business fuctions



5G NR protocol



project management



System administra..



Rights management



System monitoring



System tools



Zsniffer

Black gray box fuzz test platform

Product introduction

Product advantages

frequently asked questions



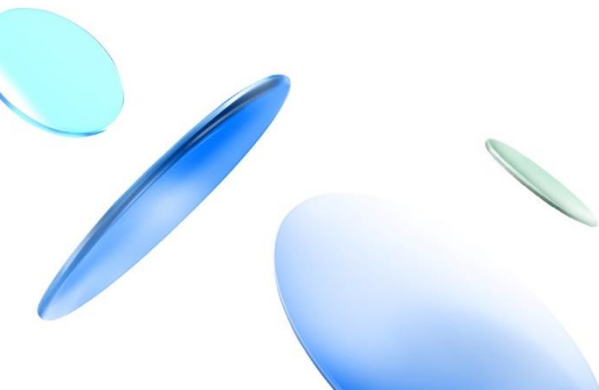
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Using Tools for Efficient and Secure R&D



**Efficiency
Improvement**



**Secure by Design
Secure by Default**

Security in DNA, Trust through Transparency

THANKS

