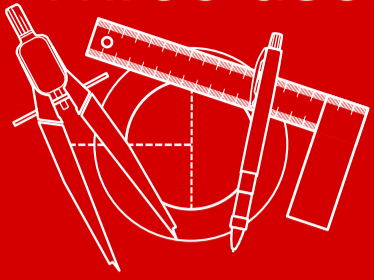


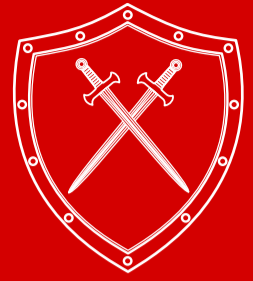
Many attacks happen on the application layer where infrastructure security solutions are not effective.

Application Security is important, however, still rare in application development. Let's change that!

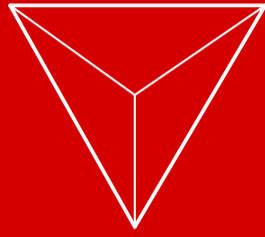
# Three useful notions for proactive Application Security!



# 「Shift Left」



# 「Security by Design」



# 「DevSecOps」 ⇒ Continuous Hardening

A security story so that 「bottom-up」 meets 「top-down」

**Shift Left:**  
Mindset for increasing efficiency and controlling cost during the whole application lifecycle

## 「Shift Left!」

**Top-down support:**  
Efficient Application Security is not feasible without strong support from top management!

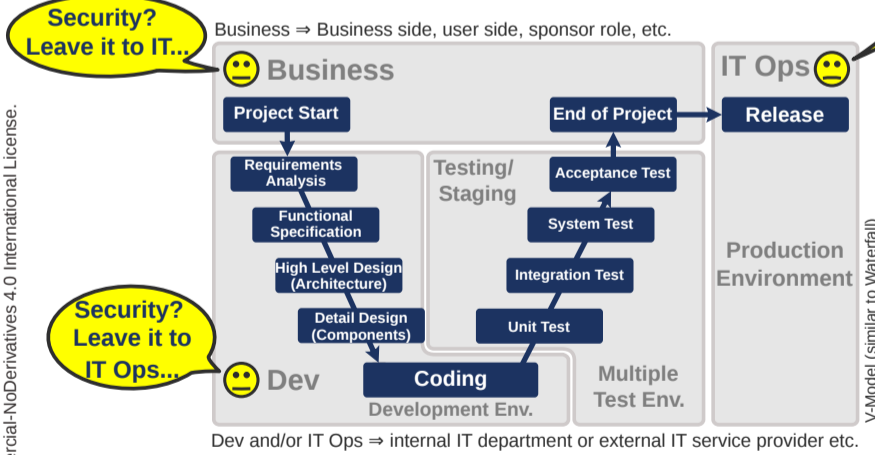
Find and fix defects early for reducing cost and risk!  
Just like it is done for Product Quality and for Safety



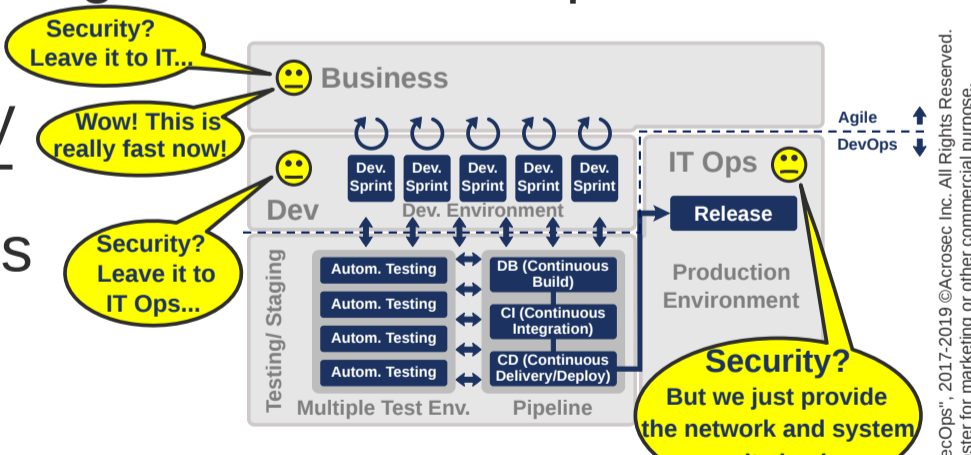
**Rule of thumb:**  
The later it gets, the more expensive it is to change an application (getting significantly costlier!)

**Top management involvement required:**  
Keep an eye on the realities in the organization regarding 「Shift Left」, 「Security by Design」 and 「DevSecOps」!

## Traditional Dev. Methods

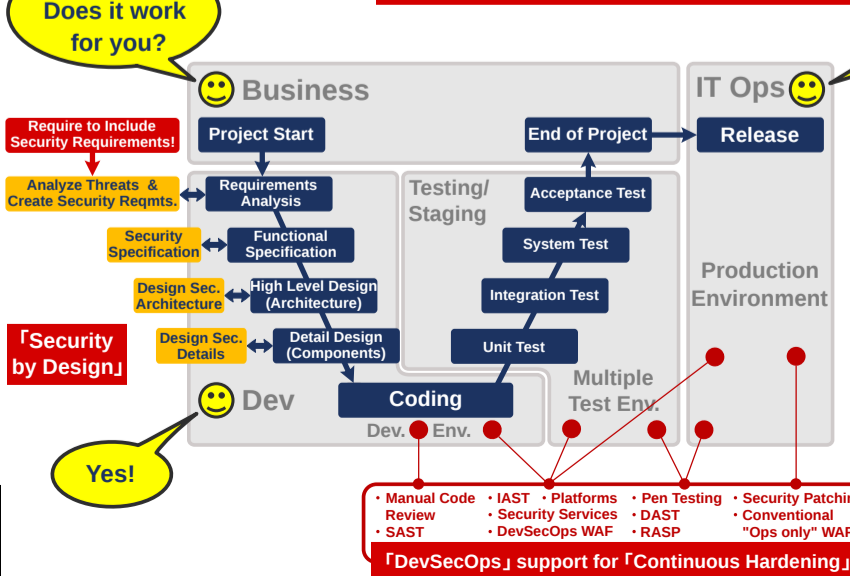


## Agile Dev. & DevOps Combined



Tragedy in the IT Trenches  
(Still an often seen reality!)

## Add 「Security by Design」 & 「DevSecOps」



Better Approach

1. Business requires a proactive approach and provides budget.
2. Development team creates a security design for the application.
3. Development and operations teams work together for efficiently:
  - a) implementing continuous hardening
  - b) maintaining the intended security level over time in order to stay consistent

