### From nothing to SRE

Matthew Huxtable Principal Engineer @ Sparx



### SLIS / SLOs **On-call**

**Observability** 

**One-step deploys** 

**Resilience engineering** 

### **Postmortem culture**

**Config management** 

@matthewhuxtable

Hermetic builds

Human factors

**Capacity planning** Alerting

### Monitoring

**Error budgets** 

**Risk tolerance** 

Canary analysis

**Testing in production** 

Launch reviews

#### SLIS / Hermetic builds SLOs **Capacity planning** Monitoring **Observability**

**One-step deploys** 

**Resilience engineering** 

### Postmortem culture

@matthewhuxtable

#### Human factors

#### **Error budgets**

#### Alerting

#### **Risk tolerance**

### Canary analysis

#### **Testing in production**

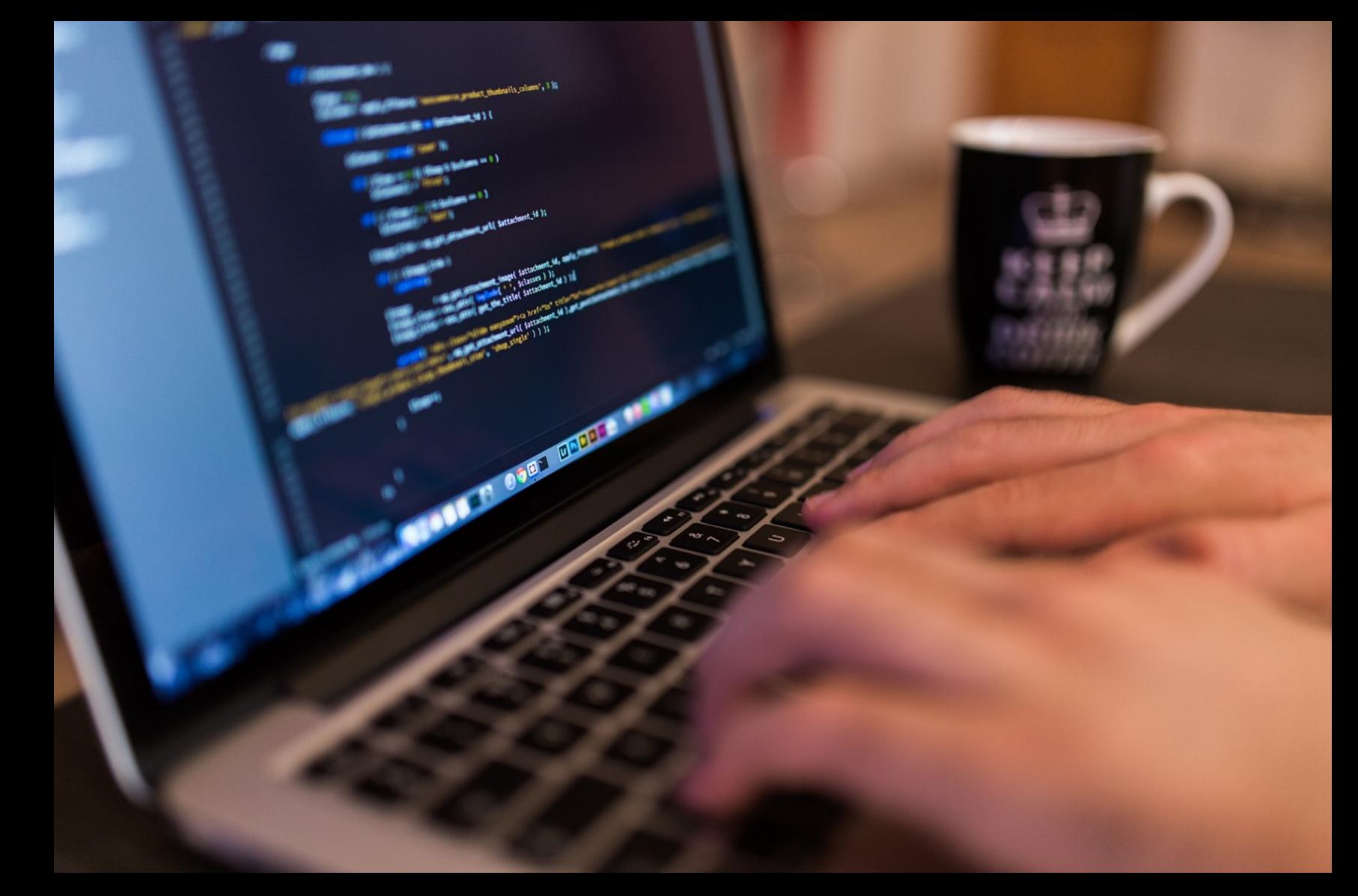
#### **Config management**

#### Launch reviews



Why SRE?

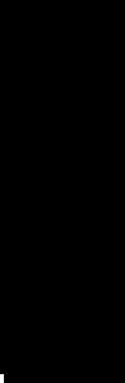
# Common challenges in small(er) organisations



{Software,
Network,
Systems}
engineering
as a lever



### **Complexity catches** us by surprise





### How does your team navigate risk?



### Where do we start?

### Where do we start?

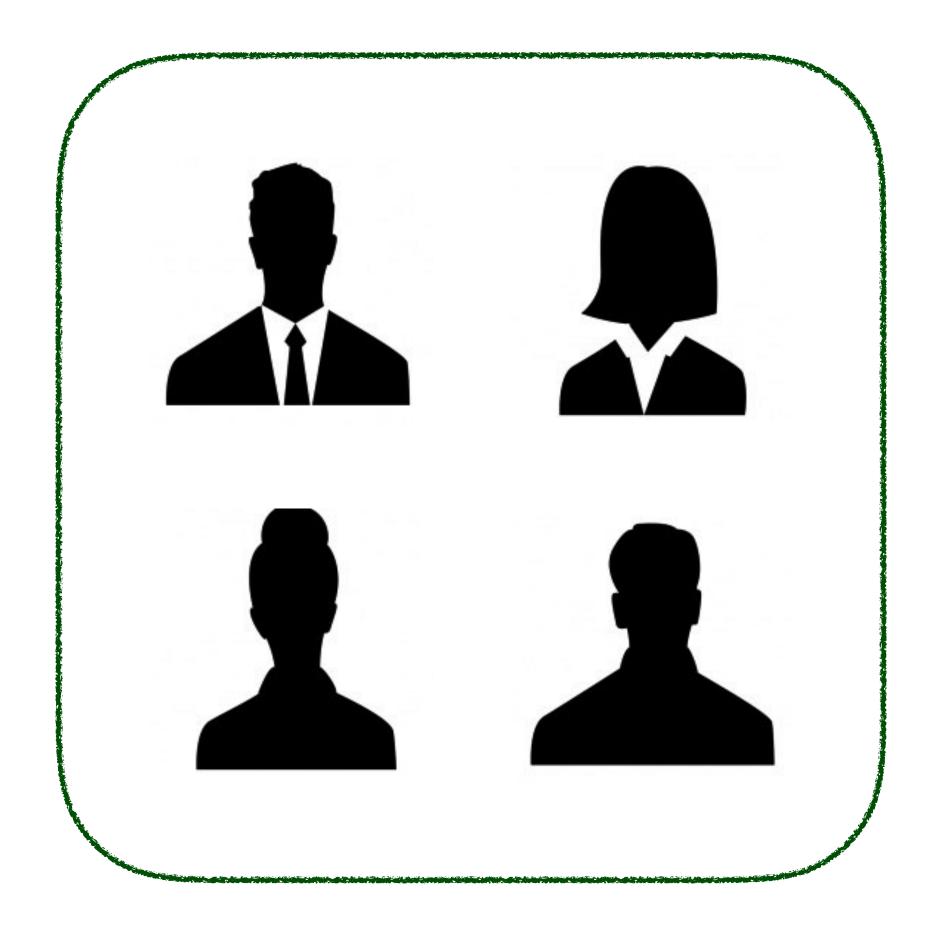
### Innovative

@matthewhuxtable

# agile

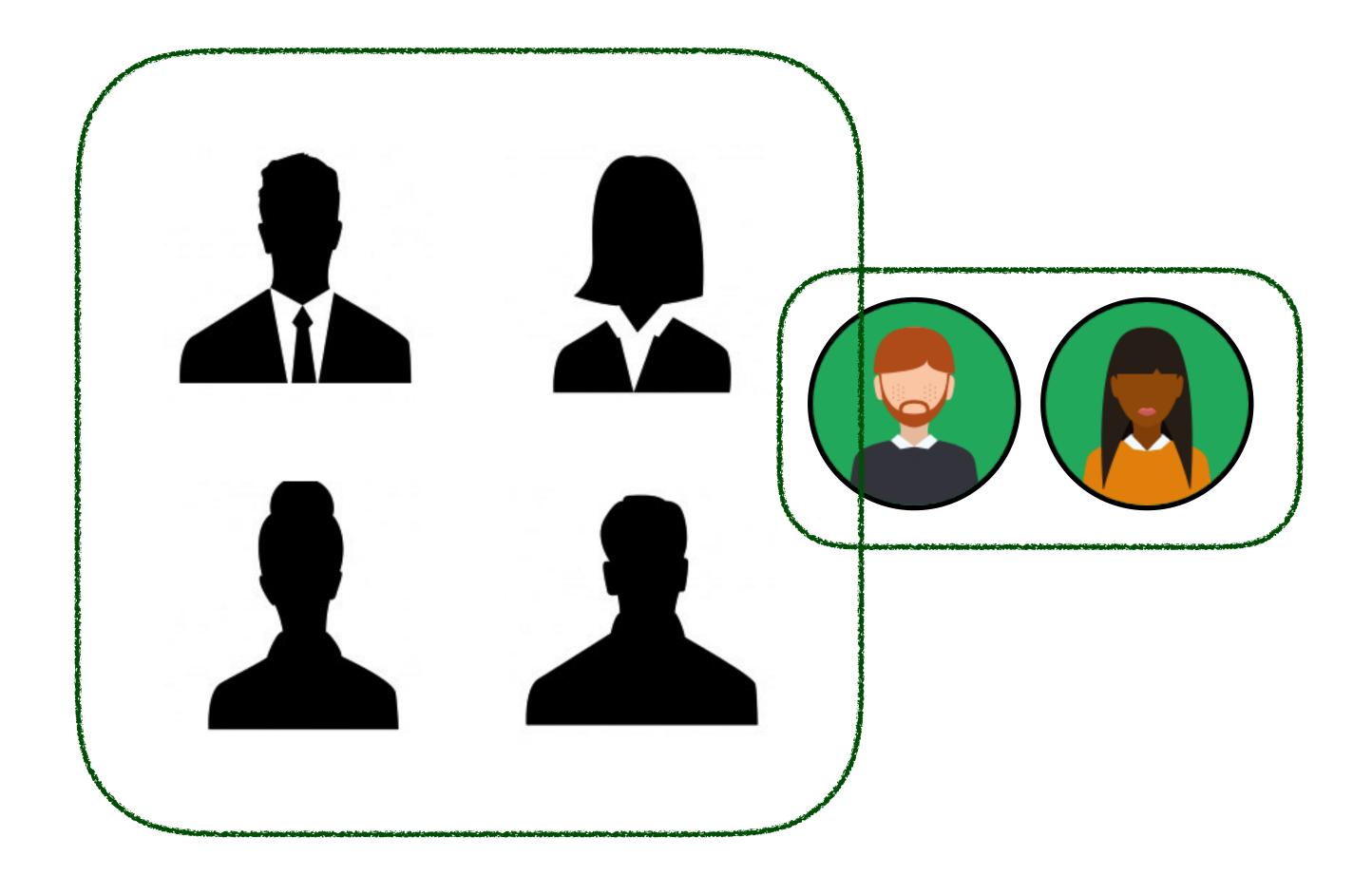
### Continually learning

### Embedded Model

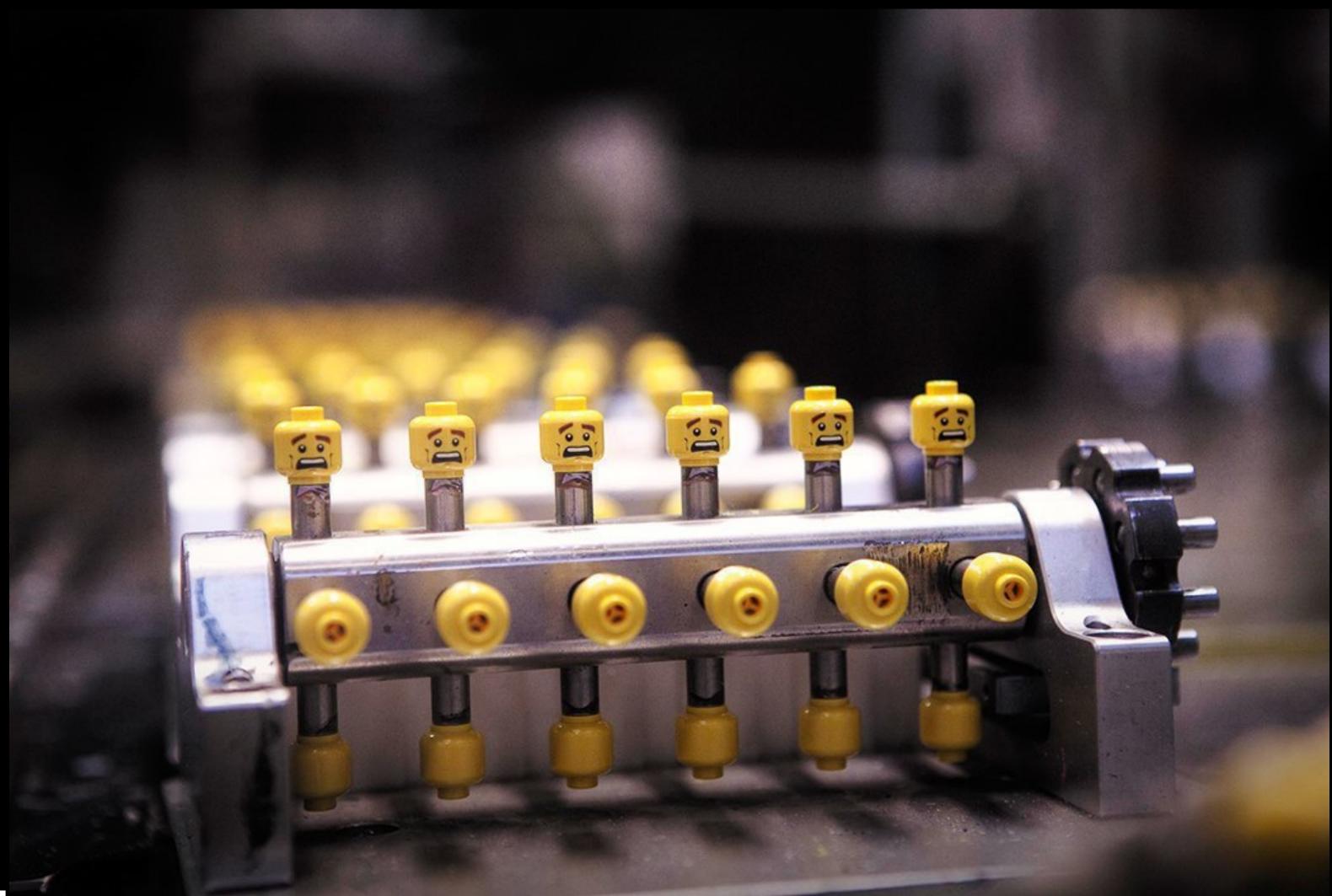




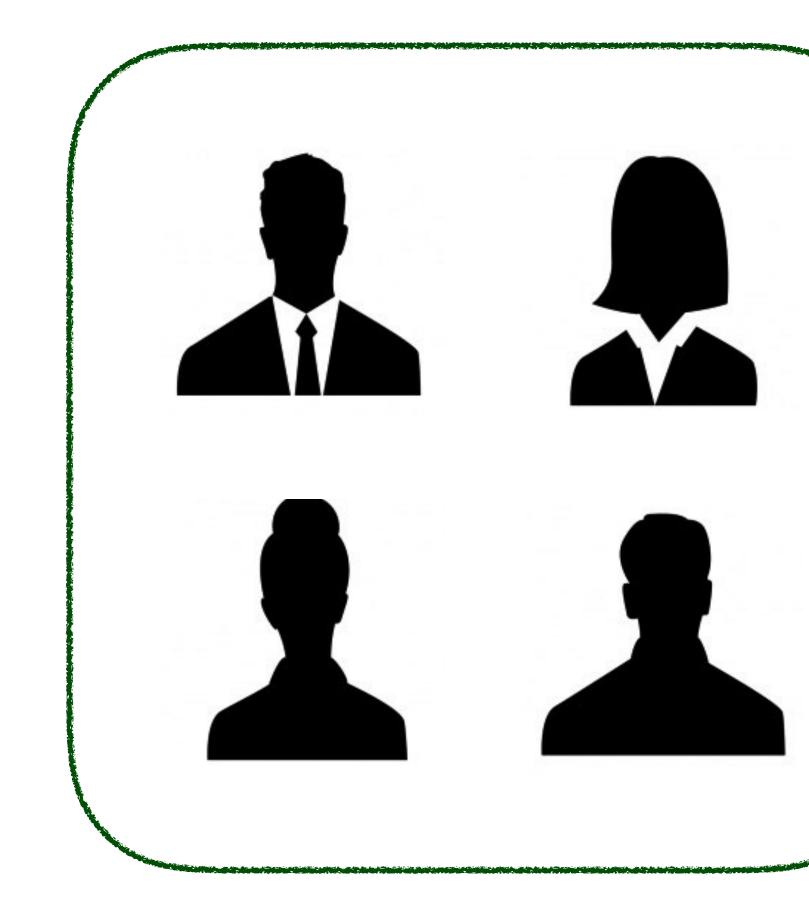
### The dedicated team model



### Handoffs



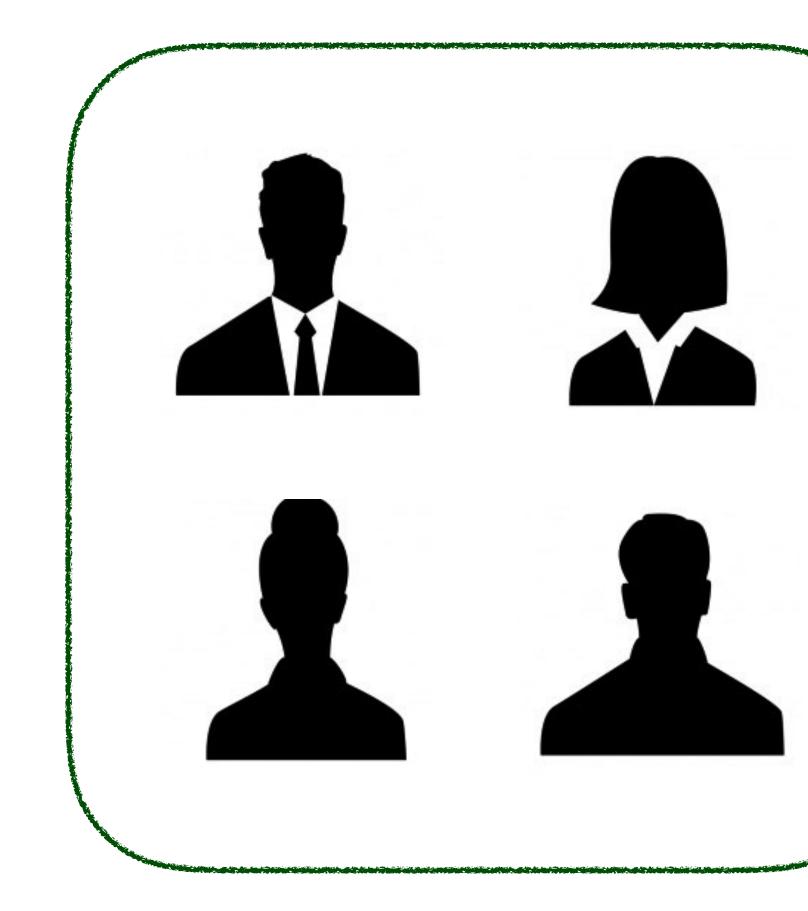
### The dedicated team model





#### "You want us to do your deploys?"

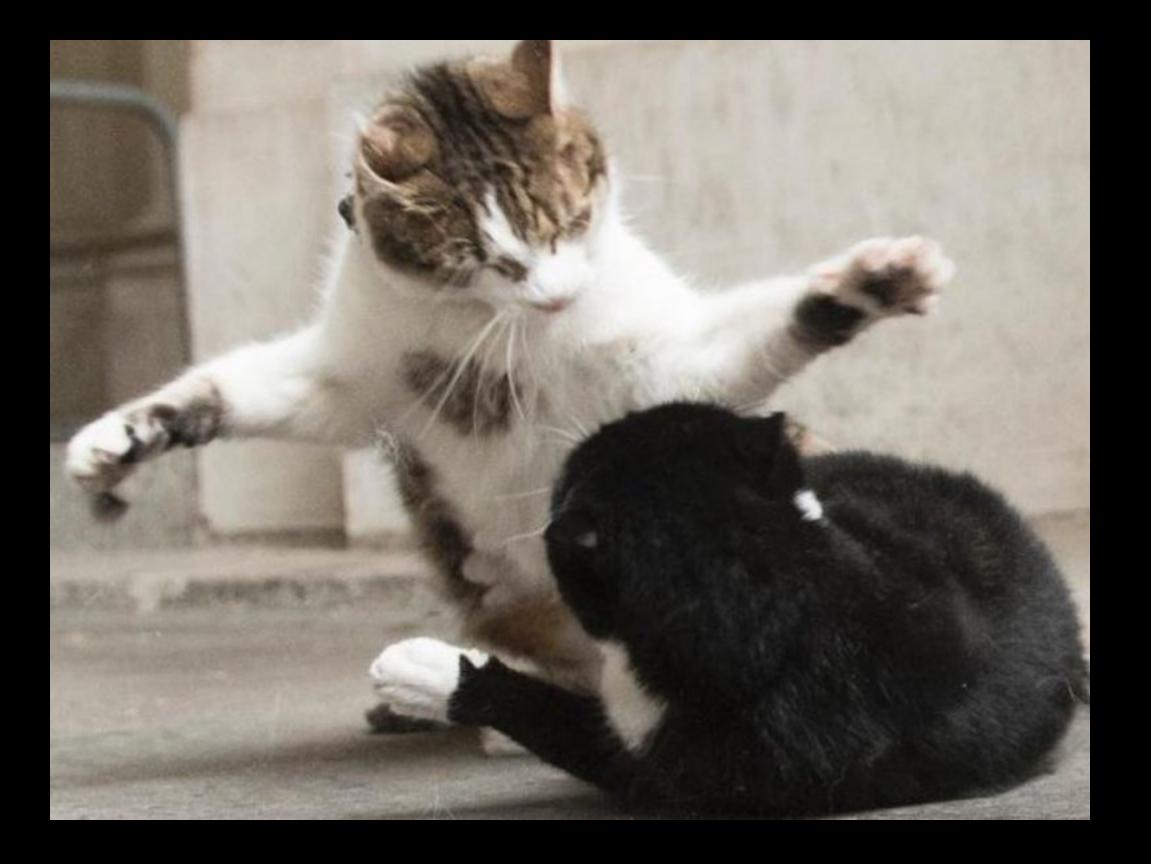
### The dedicated team model





#### "You want us to do your deploys?"

"We can't enforce error budgets on these teams!"

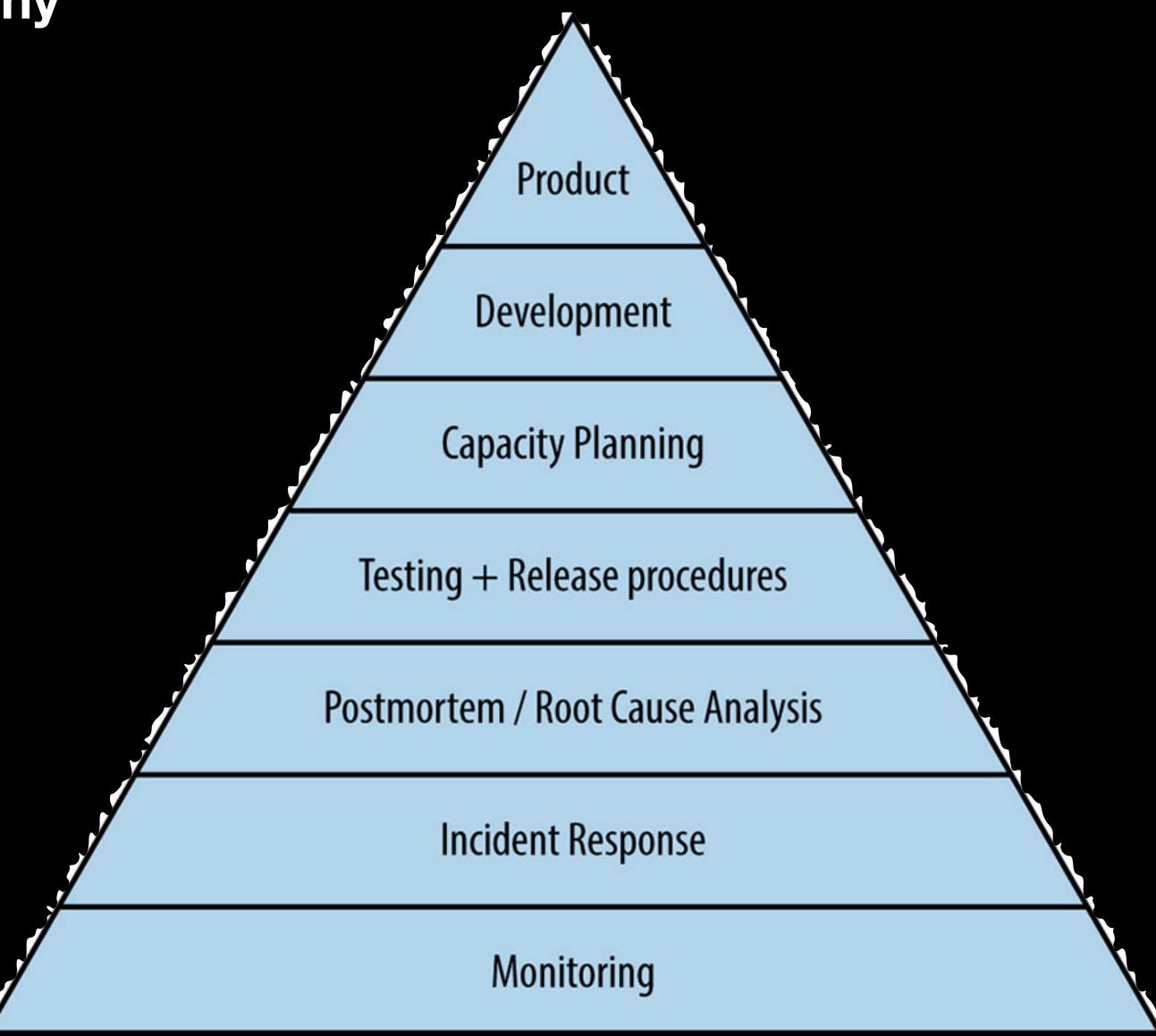


# You build it... You run it!

**Everyone is an SRE** 



#### Dickerson's Hierarchy of Reliability



### Context >> Control (in most cases)



#### The Compliance Budget: Managing Security Behaviour in Organisations

Adam Beautement University College London Department of Computer Science Malet Place, London. WC1E 6BT +44 20 7679 7214

a.beautement@cs.ucl.ac.uk

ABSTRACT

A significant number of security breaches result from employees' failure to comply with security policies. Many organizations have tried to change or influence security behaviour, but found it a major challenge. Drawing on previous research on usable security and economics of security, we propose a new approach to managing employee security behaviour. We conducted interviews with 17 employees from two major commercial organizations, asking why they do or don't comply with security policies. Our results show that key factors in the compliance decision are the actual and anticipated cost and benefits of compliance to the individual employee, and perceived cost and benefits to the organization. We present a new paradigm – the Compliance Budget - as a means of

factors in the compliance decision are the actual and anticipated cost and benefits of compliance to the individual employee, and perceived cost and benefits to the organization. We present a new paradigm – the Compliance Budget - as a means of

#### @matthewhuxtable

M. Angela Sasse University College London Department of Computer Science Malet Place, London. WC1E 6BT +44 20 7679 7214 Mike Wonham Hewlett-Packard Labs Filton Road, Stoke Gifford, Bristol, BS34 8QZ

a.sasse@cs.ucl.ac.uk

michael.wonham@hp.com

demonstrated that many human failures are caused security mechanisms that are too difficult for ordinary users. Even users with good technical skills such as systems administrators and software developers often struggle to keep up with the increased complexity and workload created by security mechanisms (Zurko & Simon, 1996; Flechais et al. 2003). The primary goal of the flourishing research community focusing on usable security, known as HCIsec, is to provide security tools that the intended users can operate correctly [e.g. Yee 2005] and complete a security task – such as encrypting an email effectively. Other key usability criteria established by the HCI research community – user satisfaction and user cost – have hitherto been addressed implicitly rather than explicitly in usable security research.

research community – user satisfaction and user cost – have hitherto been addressed implicitly rather than explicitly in usable security research.



### SRE is a...

# SRE is a... cost centre?

# SRE is a... cost-centre?

# SRE is a... <del>cost centre?</del> source of bureaucracy?

# SRE is a... cost centre? source of bureaucracy?

SRE IS a... cost-centre? seurce of bureaucracy? gatekeeper to production?

SRE IS a... cost-centre? seurce of bureaucracy? gatekeeper to production? 

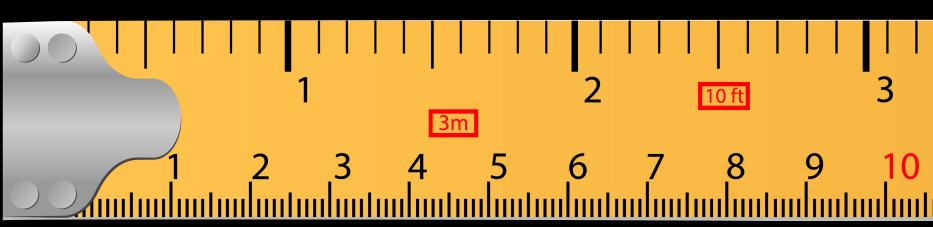
# SRE is a force multiplier

### How do you want your users to feel?

## How do you want your users to feel?

#### @matthewhuxtable

(Measure it)









How do you do SRE?

### Successful SRE at small scale

- Measure positive value signals
- Dial up autonomy, dial down control
- Incentivise shared context and a common approach



#### https://en.wikipedia.org/wiki/Egyptian\_pyramids#/media/ File:All Gizah Pyramids.jpg

@matthewhuxtable

### Attribution

https://www.freepik.com/free-photos-vectors/icon pch.vector – <u>https://www.freepik.com/free-photos-vectors/line</u>