20 Years of SRE

© NRM/Midjourney

stanza

Niall Murphy

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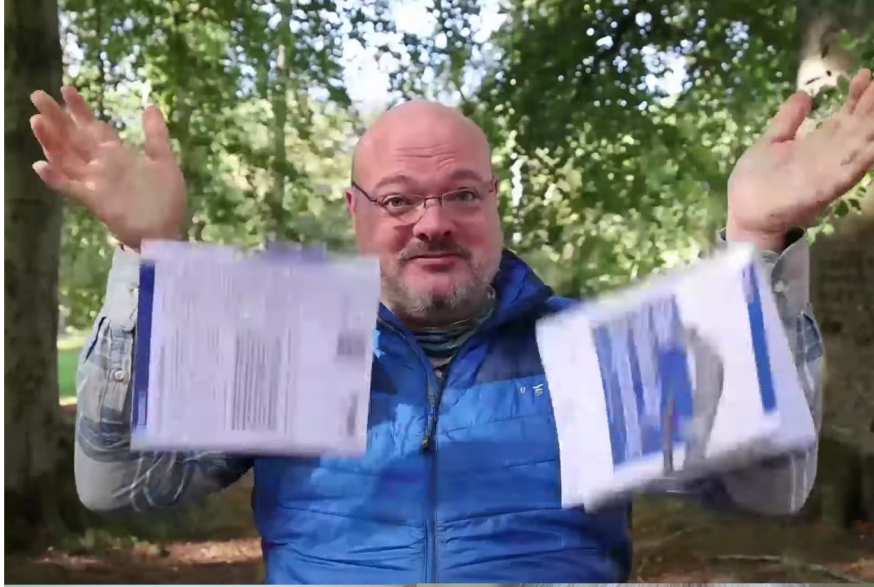
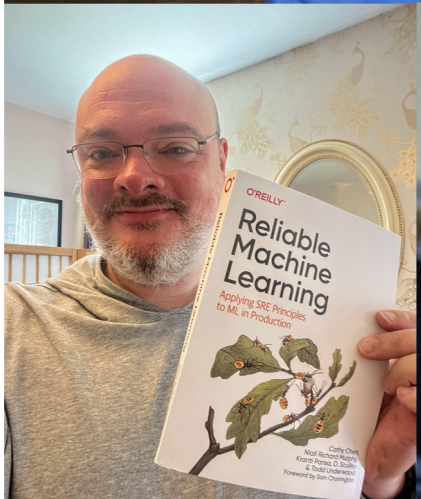
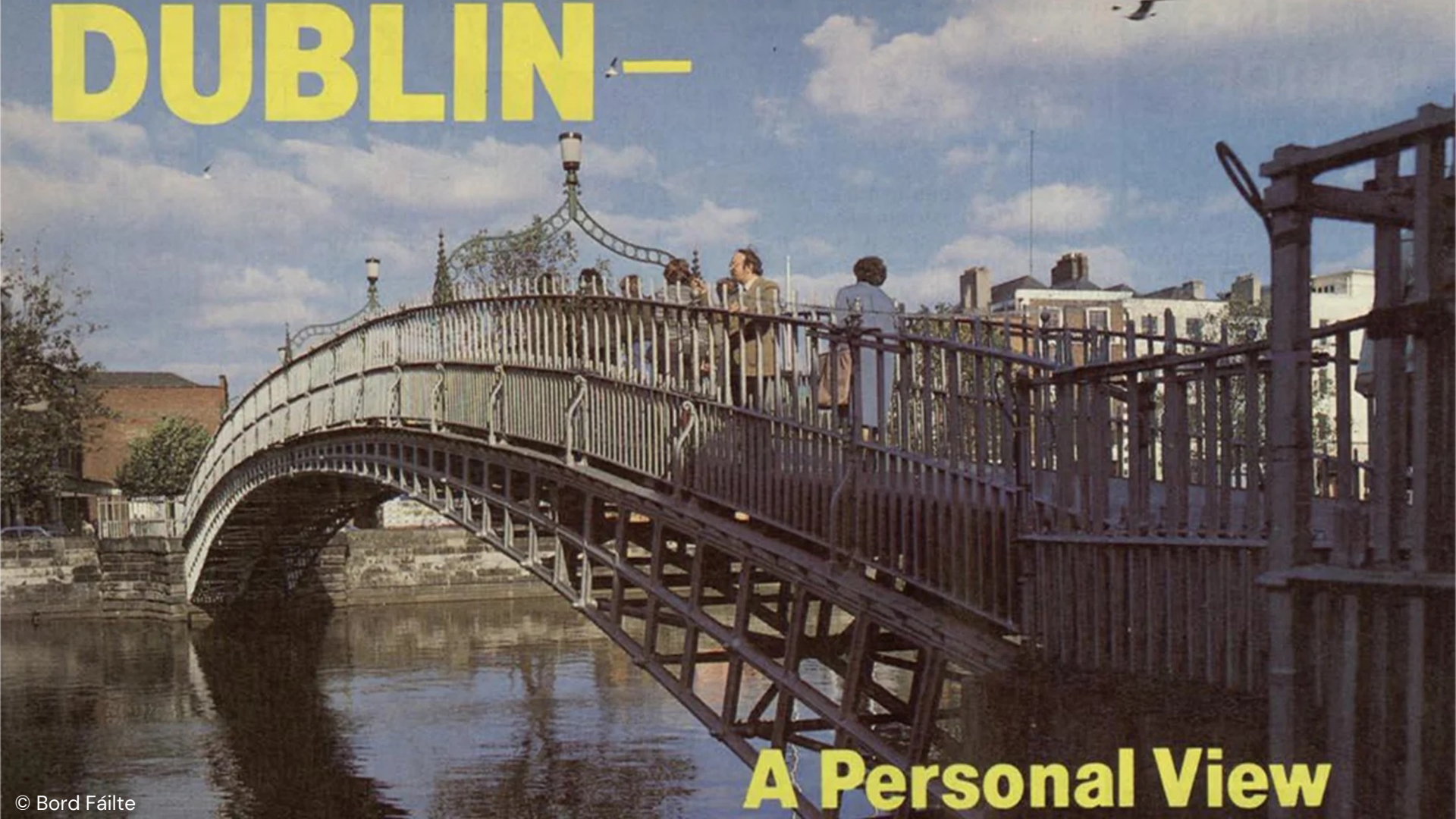
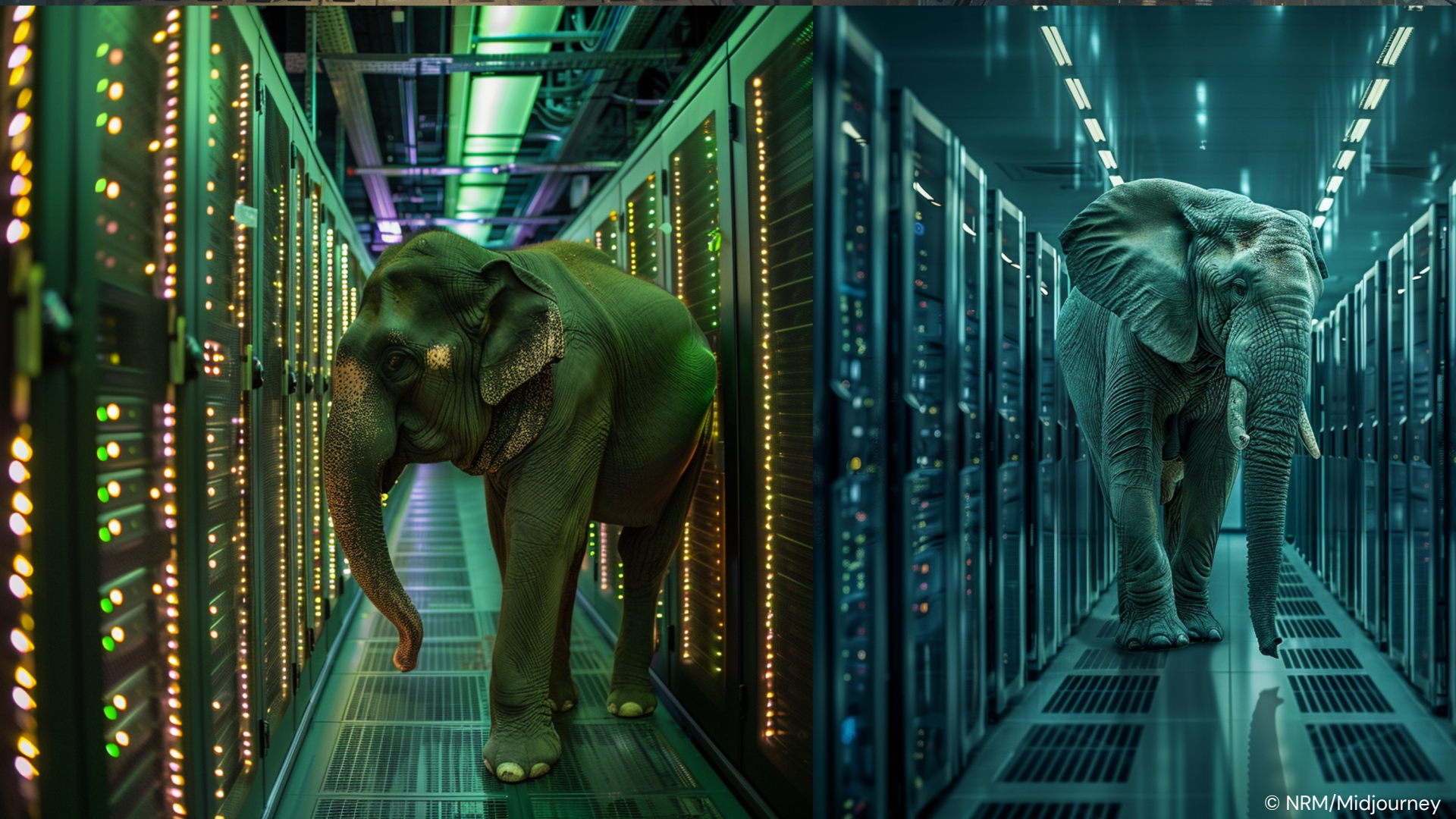
JavaScript
Site Reliability Engineering
O'REILLY

© NRM




O'REILLY
Reliable Machine Learning
Applying SRE Principles to ML in Production


DUBLIN—
A Personal View
© Bord Fáilte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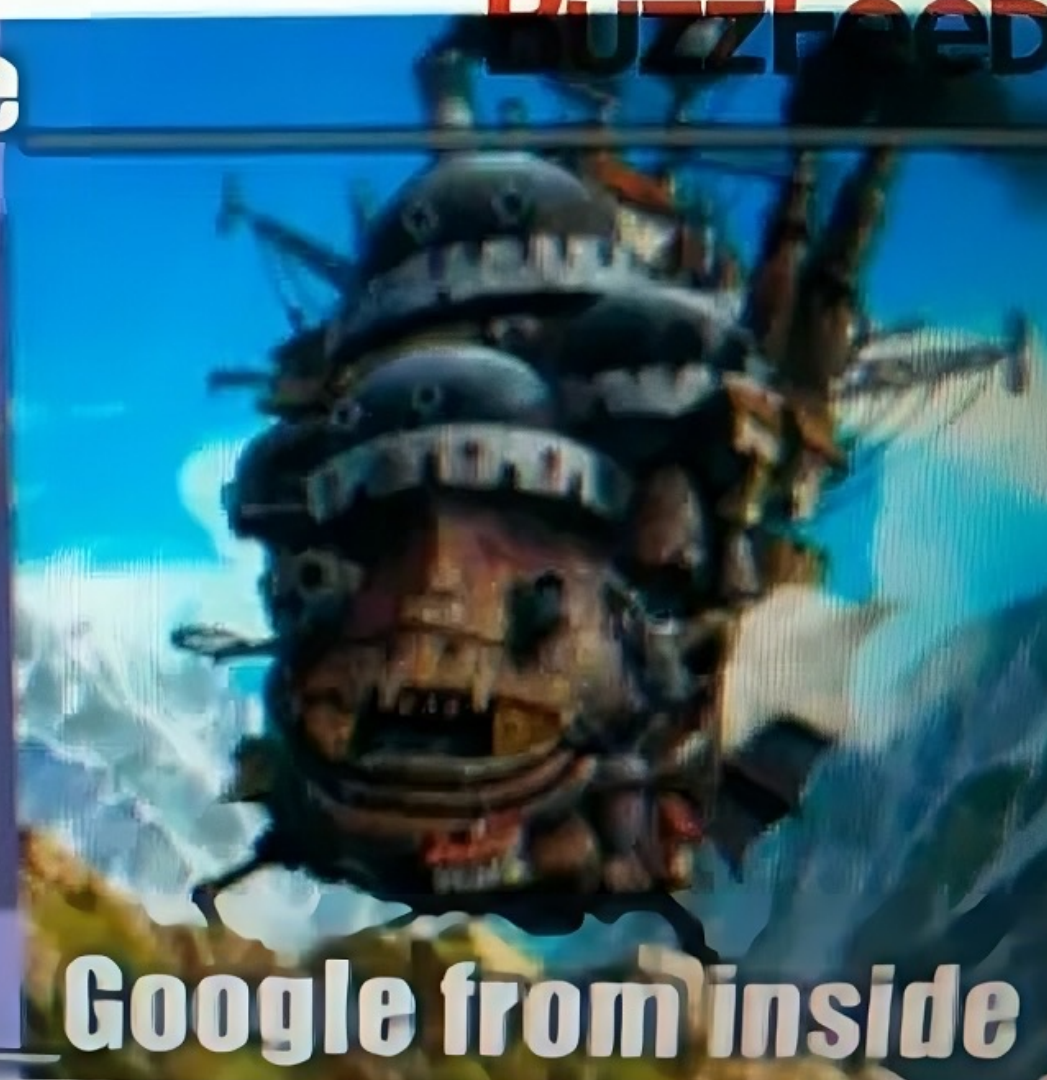
Google from outside



Google from inside

© ... someone

© NRM/Midjourney

Putting the slightly less terrible thing in place just long enough to get to tomorrow’s terrible thing

cluster.py
© NRM/Midjourney

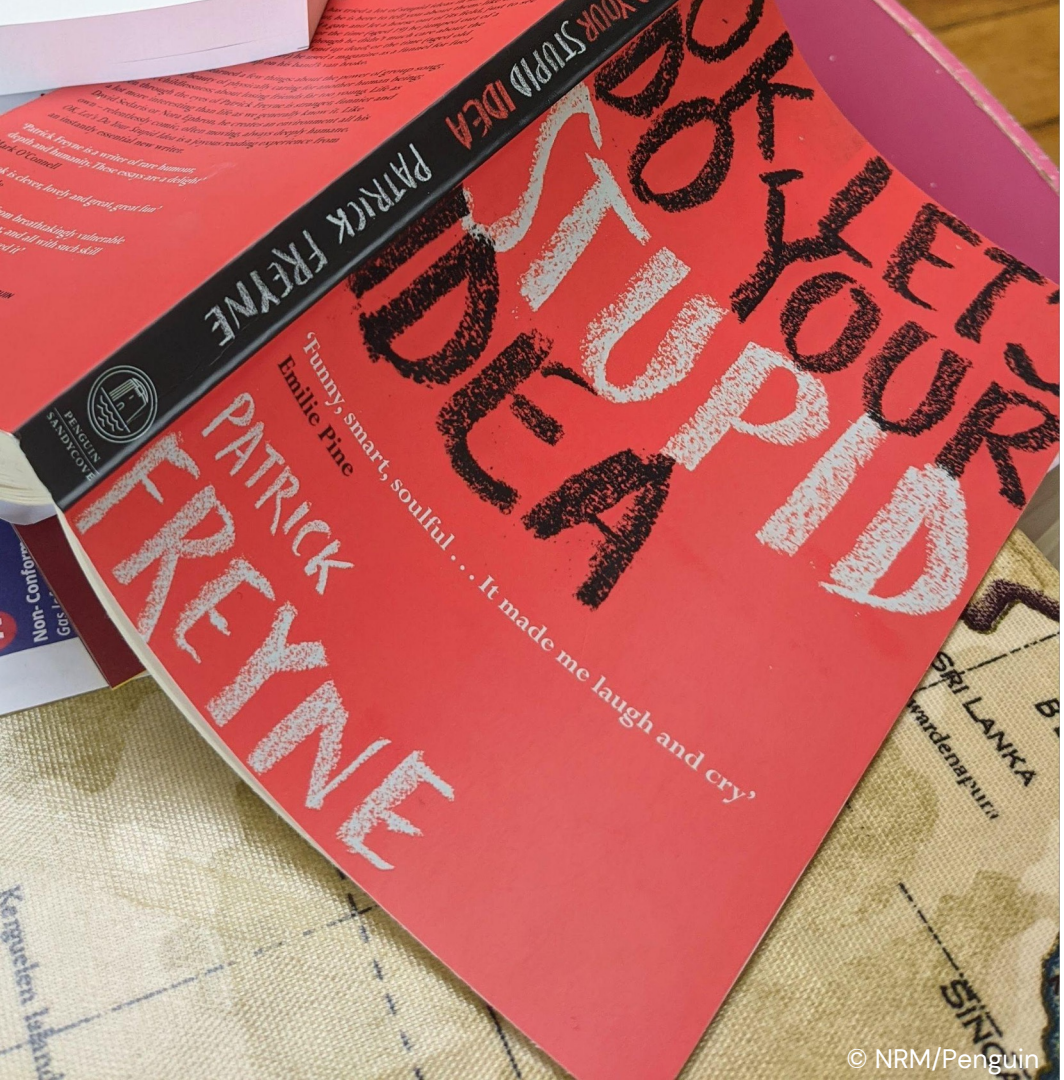
- **1:** SRE via Ben Treynor-Sloss (and Mieke Bloomfield)
- **2:** “No playbook-only practitioners”
- **3:** “SRE? Never heard of it” Production-team

Highlights

© NRM, Connemara

SRE (teams) are everywhere

SRE material continues to sell well



SRE ideas have penetrated general engineering consciousness

Forty-Six Percent Of Google's SRE Principles Apply Directly To Your Enterprise — What About The Rest?

Chris Gardner, VP, Research Director MAY 16 2018

When Google published its *Site Reliability Engineering* (SRE) book — a detailed look at how it keeps production systems running — Forrester started getting a lot of questions. "Should I do this in my enterprise IT shop?" "I'm no unicorn — can I even do these things?" And perhaps most important: "What parts of the book are relevant?"

To answer these, we broke SRE down into 24 principles spread across six categories: service delivery, feature velocity, automation, monitoring, reliability, and architecture. We then spoke with clients implementing SRE. We discussed their objectives, successes, and setbacks. We also talked with vendors guiding customers' implementations — including Google to get its take.

What we found is that you can apply most of Google's advice — with some tweaking. I highly recommend reviewing the detailed analysis in our new report. To sum up the findings:

SRE ideas have penetrated general *business* consciousness

(E.g.: Gartner, Forrester)

"By 2027, 75% of enterprises will use site reliability engineering practices across their organizations to optimize product design, cost and operations to meet customer expectations, up from 10% in 2022."

Photon: Fault-tolerant and Scalable Joining of Continuous Data Streams

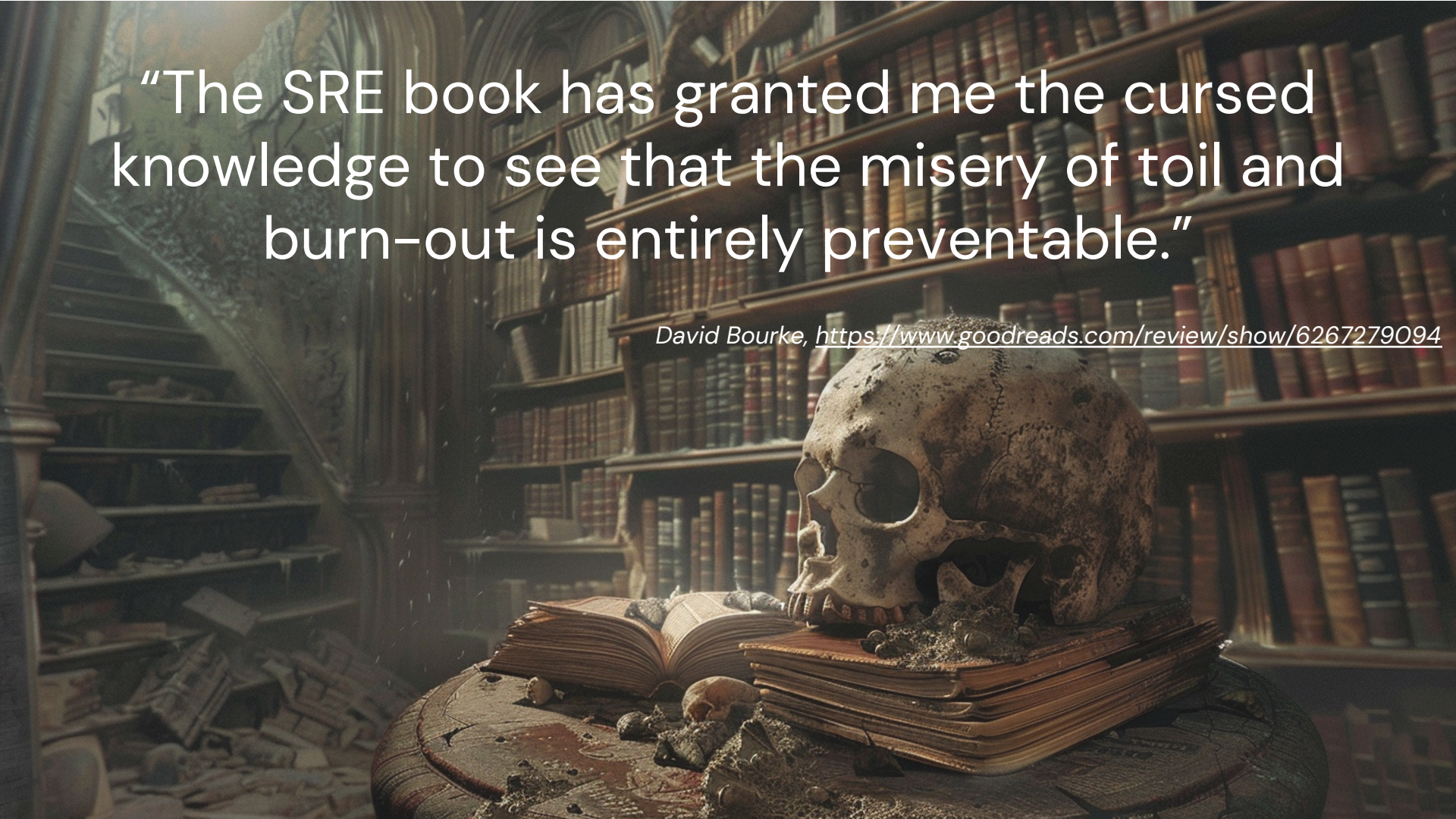
Rajagopal Ananthanarayanan
Venkatesh Basker
Sumit Das
Ashish Gupta
Haifeng Jiang
Tianhao Qiu
Alexey Reznichenko
Deomid Ryabkov
Manpreet Singh
Shivakumar Venkataraman

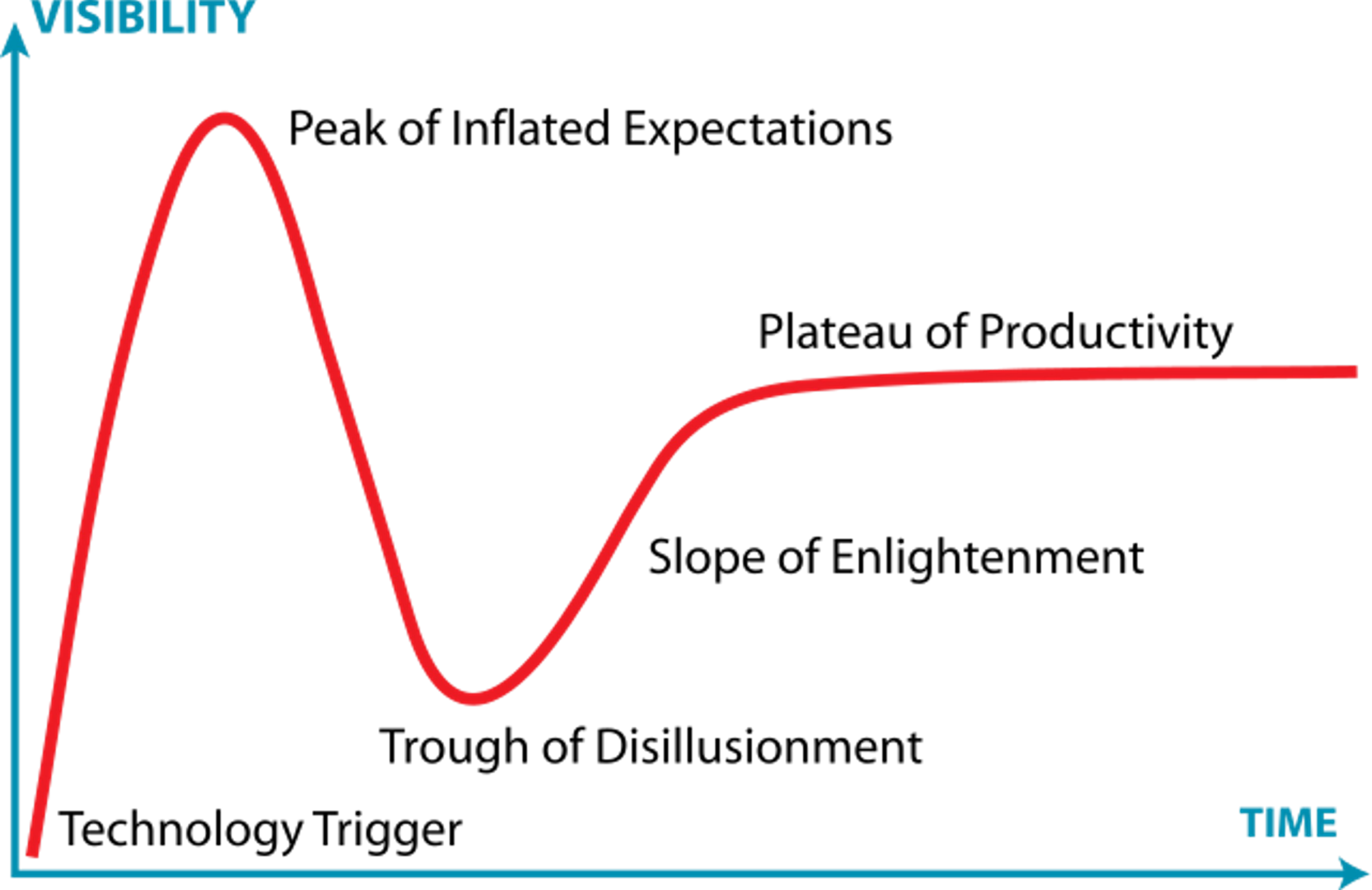
Maglev: A Fast and Reliable Software Network Load Balancer

Danielle E. Eisenbud
Cheng Yi
Carlo Contavalli
Cody Smith
Roman Kononov
Eric Mann-Hielscher
Ardas Cilingiroglu
Bin Cheyney
Wentao Shang
Jinnah Dylan Hosein

We got a lot of engineering done

SRE and ethics


“The SRE book has granted me the cursed knowledge to see that the misery of toil and burn-out is entirely preventable.”
David Bourke, https://www.goodreads.com/review/show/6267279094


VISIBILITY
Peak of Inflated Expectations
Plateau of Productivity
Slope of Enlightenment
Trough of Disillusionment
Technology Trigger
TIME

© NRM Phoenix Park, Dublin

Career pipeline needs attention

© NRM New Orleans

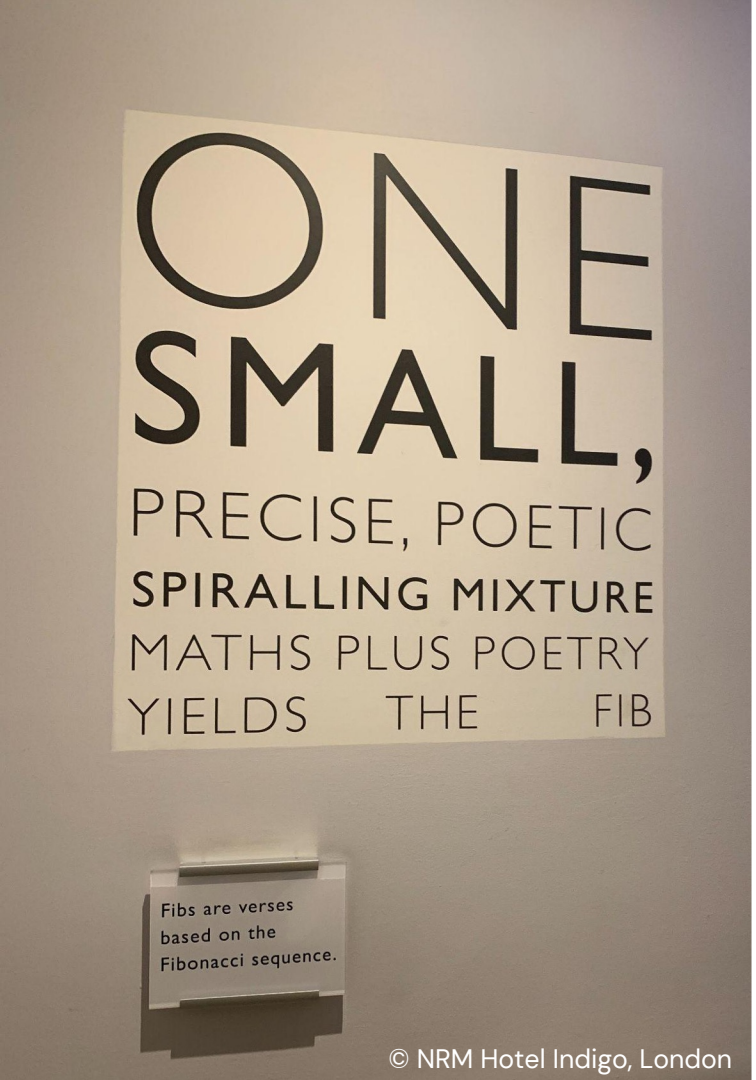
A number of failed SRE implementations in companies whose names you've heard of

(Doing SRE is hard)

Photo by Pawel Janiak on Unsplash

Widespread mishandling, dilution, problems with what the term & role means

(*and sometimes too much worrying about it)



Neither generating nor applying (mathematical) models often and widely enough

Still unable to put generic numeric framework(s) on how much our work matters

© NRM/Midjourney

ZIRP-no-more may undermine several of the abstract economic bases for caring about reliability

© NRM/Midjourney

Doctrine overtaking reality-oriented pragmatism, flexibility, … engineering?

“Operations is low status” battle is not yet won

The radical idea that it is legitimate to apply software techniques and systems thinking to the operations domain.

Still radical

Still radical

stanza

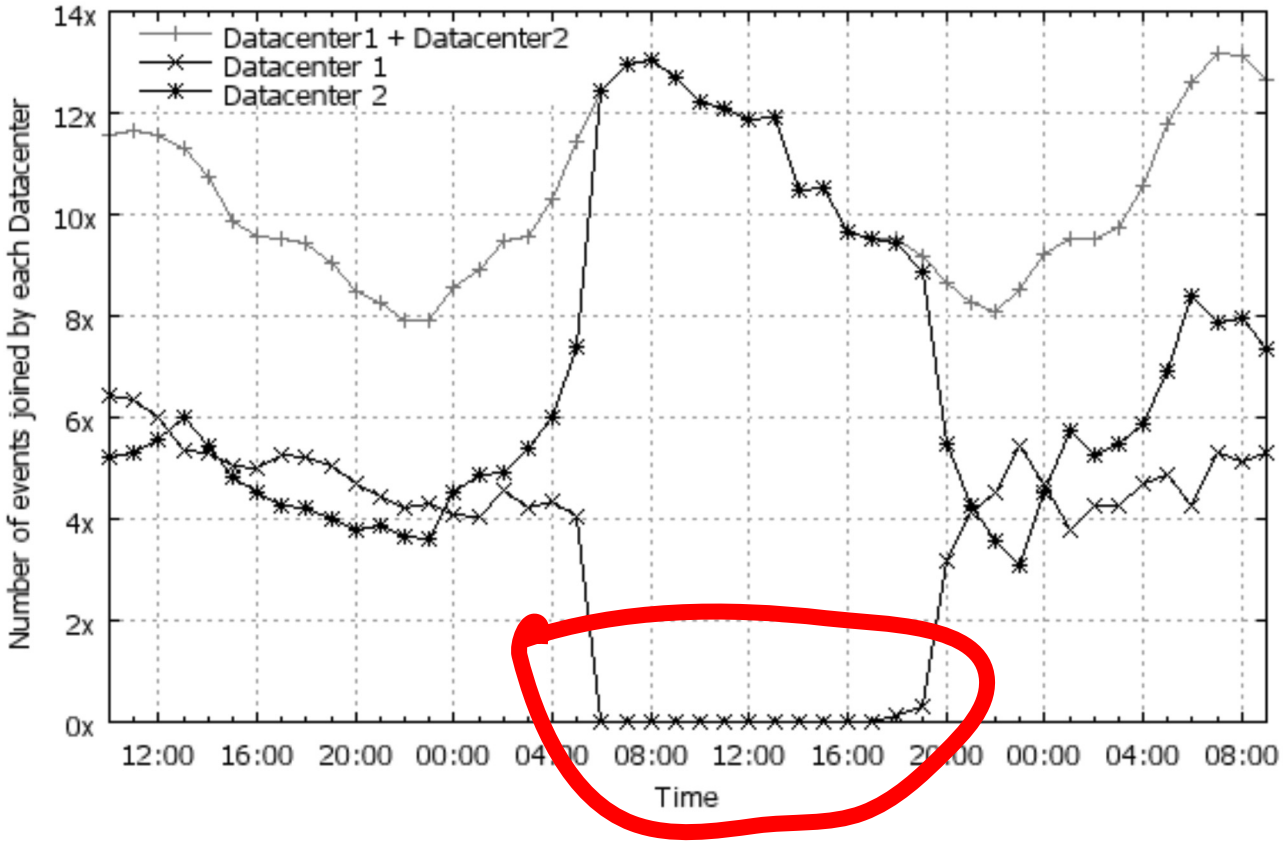
Thank you!

hello@stanza.systems

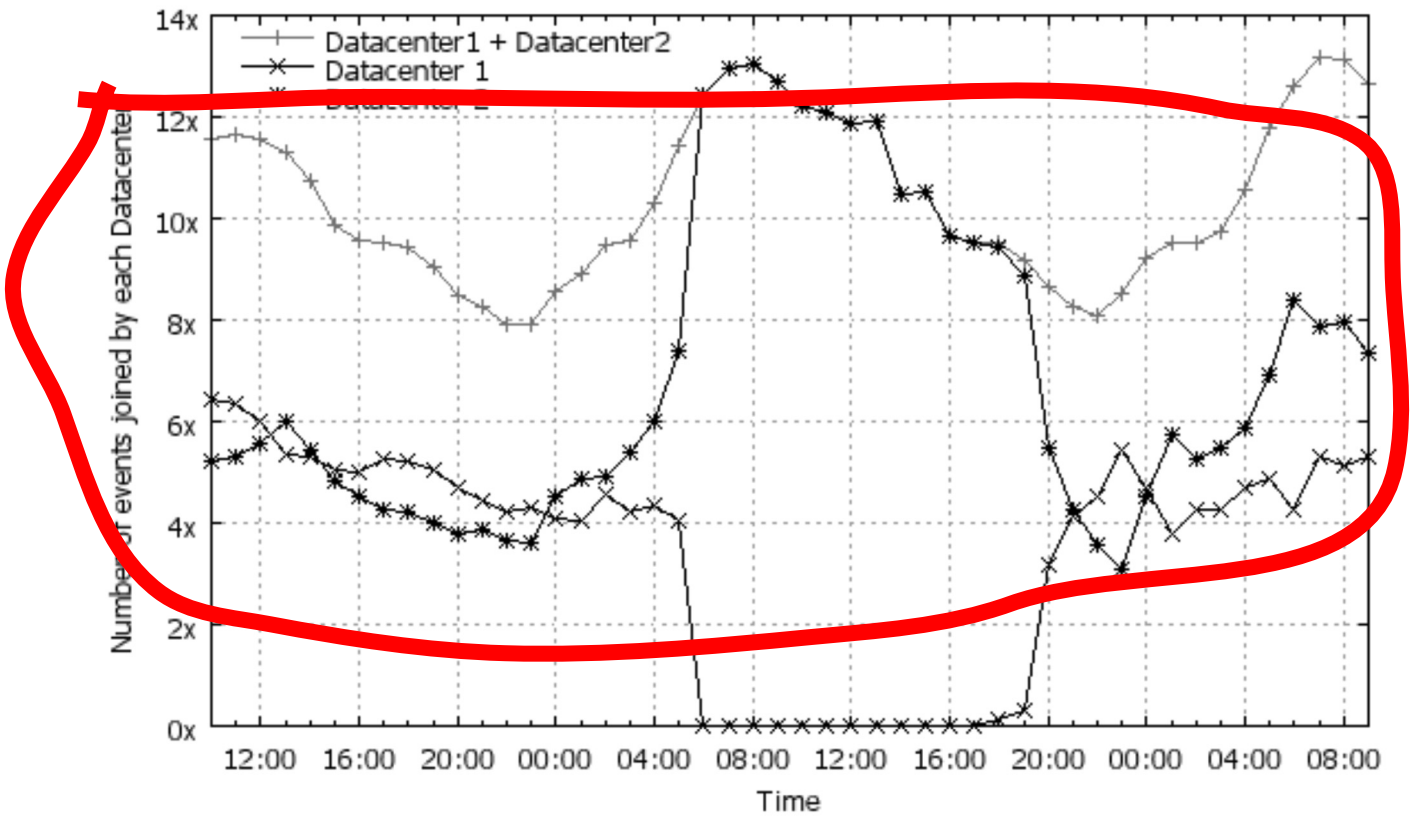
Thankfully, the SRE book is not a prescriptive list of naive practices. The SRE book provides a framework for defining system performance & reliability, along with case studies that illustrate how this framework can be applied. The SRE book defines a terminology for concepts of system reliability and failure that can provide clarity in any discussion, regardless of whether or not you agree with the overall SRE framework. For this reason, I consider this book required reading for anyone who works on services that are expected to be available 24/7.

https://www.goodreads.com/review/show/6267279094

The SRE book has granted me the cursed knowledge to see that the misery of toil and burn-out is entirely preventable.



Do we only have value here?



What about here?

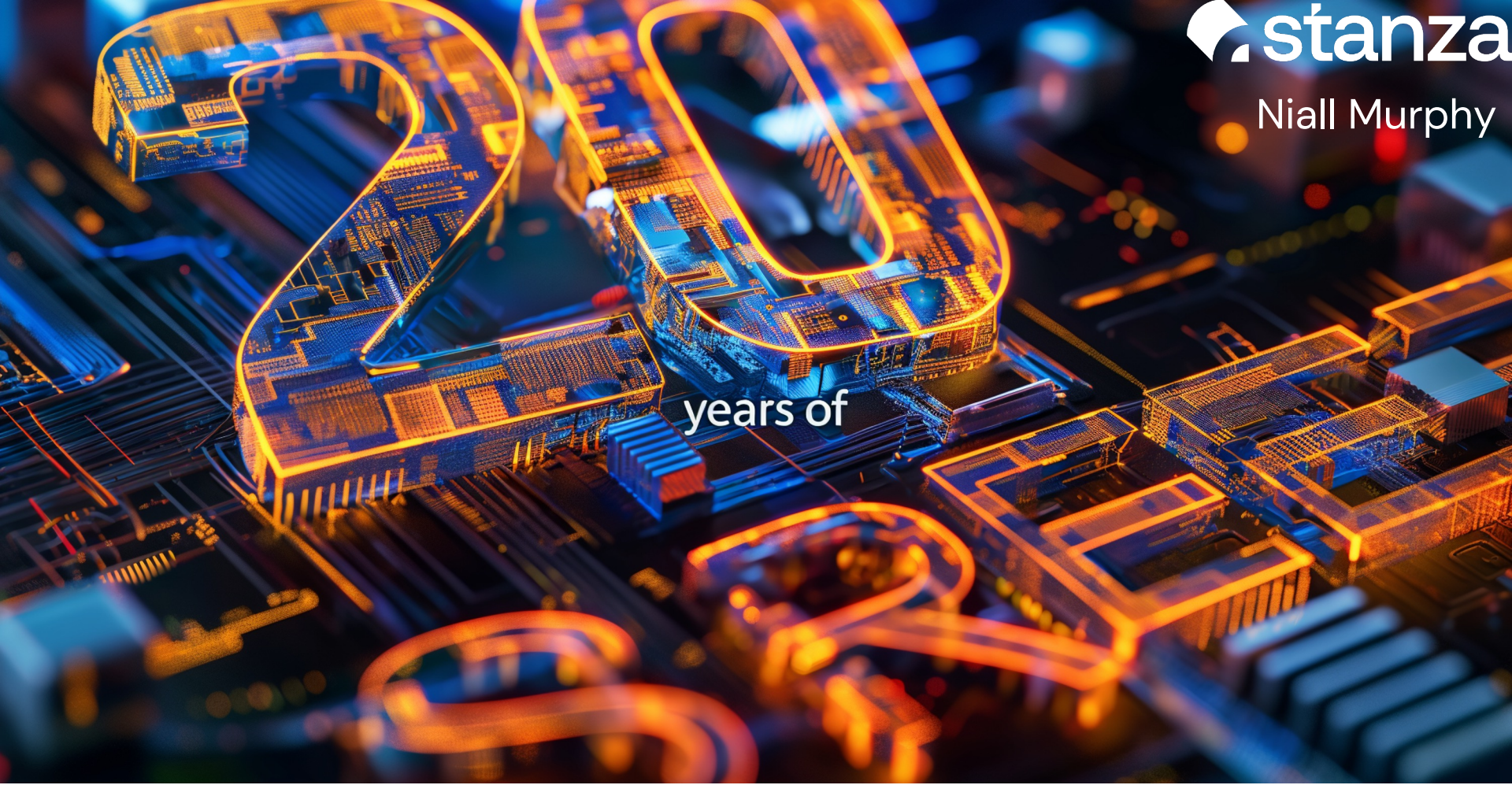
Photo by Daniel Öberg on Unsplash

Standing back, the big picture is growth

- Production-team to SRE
- Ben Treynor-Sloss interview
- Book release
- Wider IT landscape involvement

Dec 31, 2006	10,700	5,020	88.38%
Dec 31, 2005	5,680	2,659	88.02%
Dec 31, 2004	3,021	1,393	85.57%
Dec 31, 2003	1,628	946	138.71%
Dec 31, 2002	682	398	140.14%
Dec 31, 2001	284	-	-

20 Years


stanza
Niall Murphy
20
years of