

Predictable Pricing for Agile Development

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The ideal 'win:win' contract

Customers want assurance...

- Value-for-money
- On-time delivery
- The expected benefits
- A trust-worthy supplier
- To retain control
- How much to budget

Suppliers want...

- A reasonable profit
- Acceptable risk:reward ratio
- To satisfy & retain customers
- Effective collaboration
- To use professional expertise
- To control costs

This presentation suggests
an effective way to contract

20



© BCE ECB EZB EKT EKP 2001

Javier

20

20

specimen

caveat
emptor



20 EURO
ΕΥΡΩ

specimen

20

Ave! Morituri te salutant!



Adversariali!

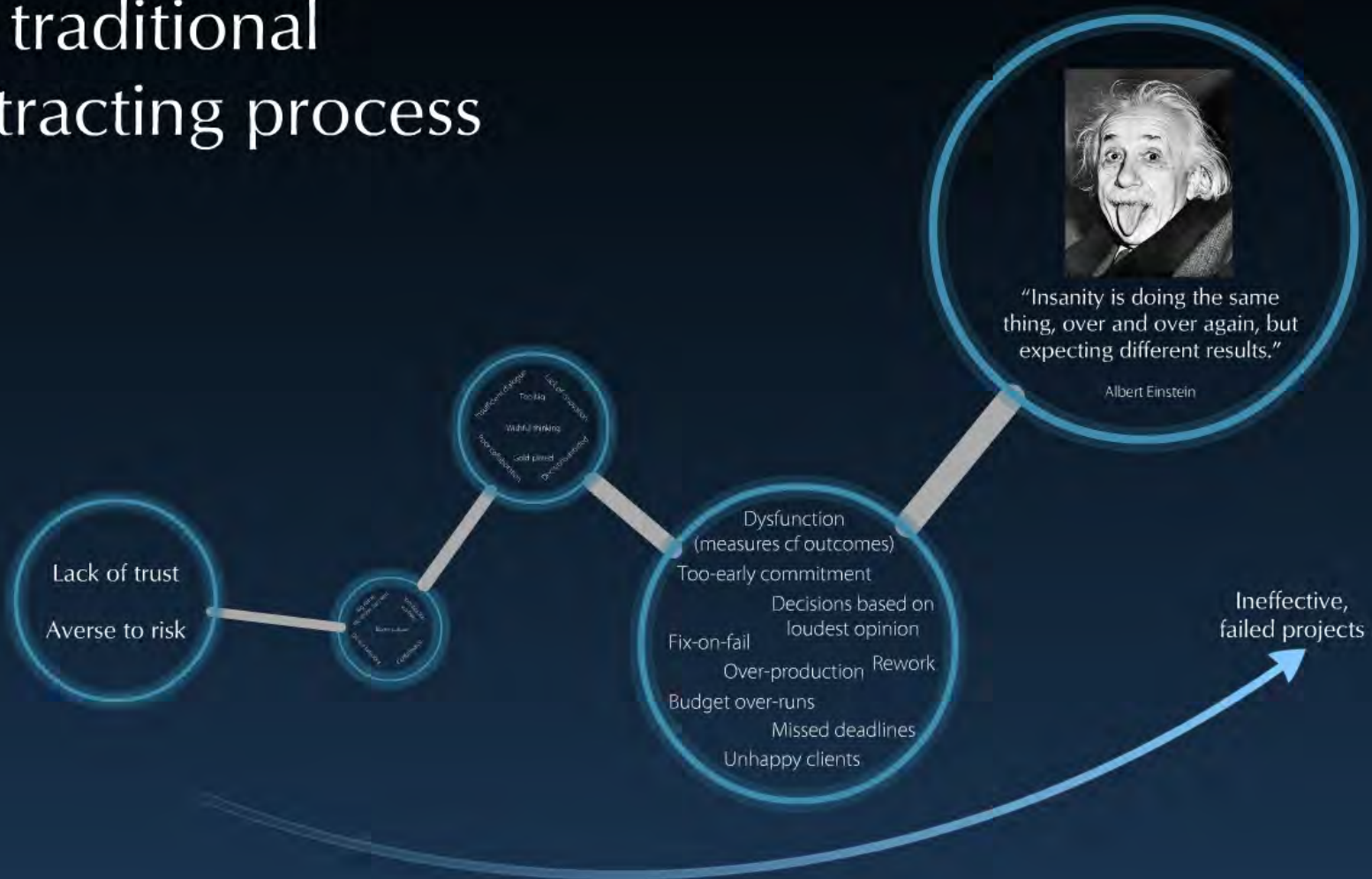
Here be dragons!

Risky!

Dangerous



The traditional contracting process





Lack of trust

Averse to risk

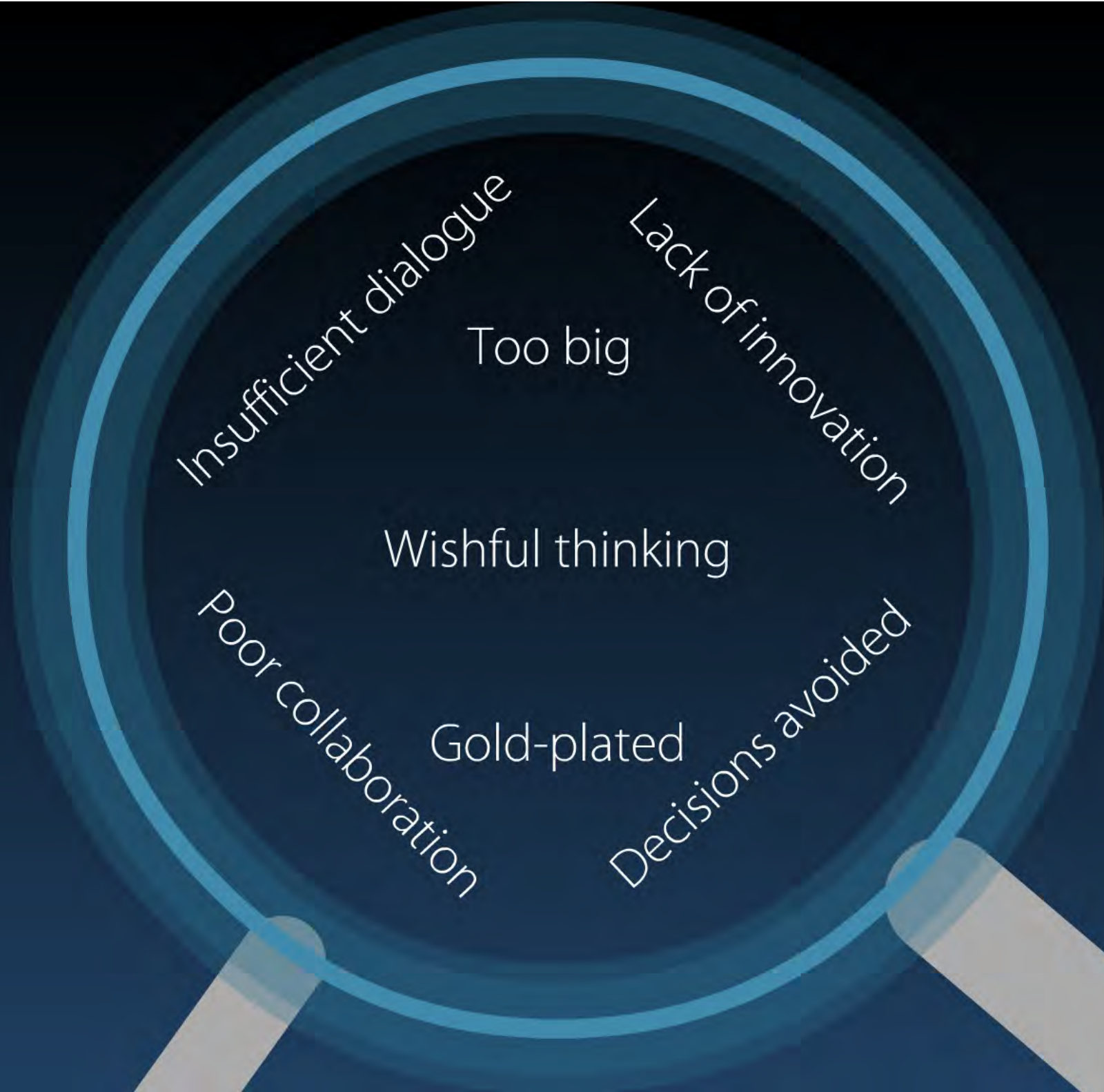
Big name,
expensive suppliers

Specification
up-front

Blame culture

Dictate solutions

Conformance



Insufficient dialogue

Lack of innovation

Too big

Wishful thinking

Poor collaboration

Gold-plated

Decisions avoided

Dysfunction

(measures of outcomes)

Too-early commitment

Decisions based on
loudest opinion

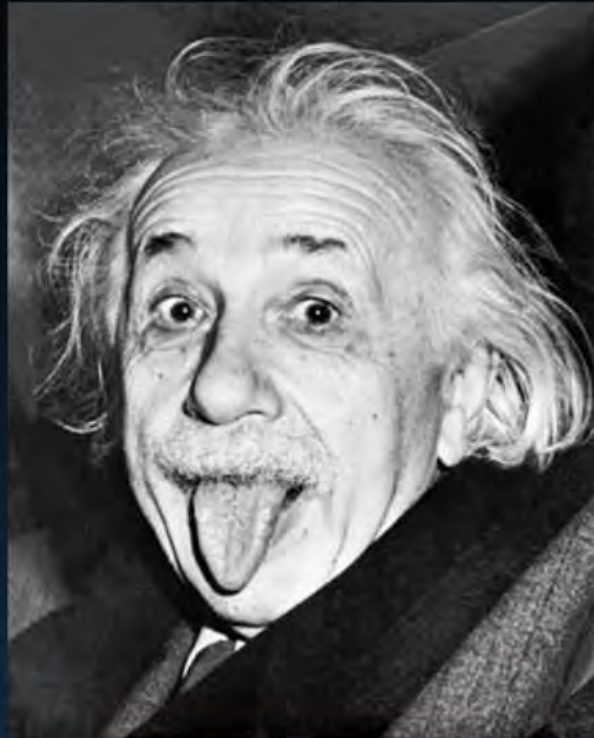
Fix-on-fail

Over-production Rework

Budget over-runs

Missed deadlines

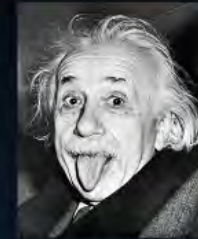
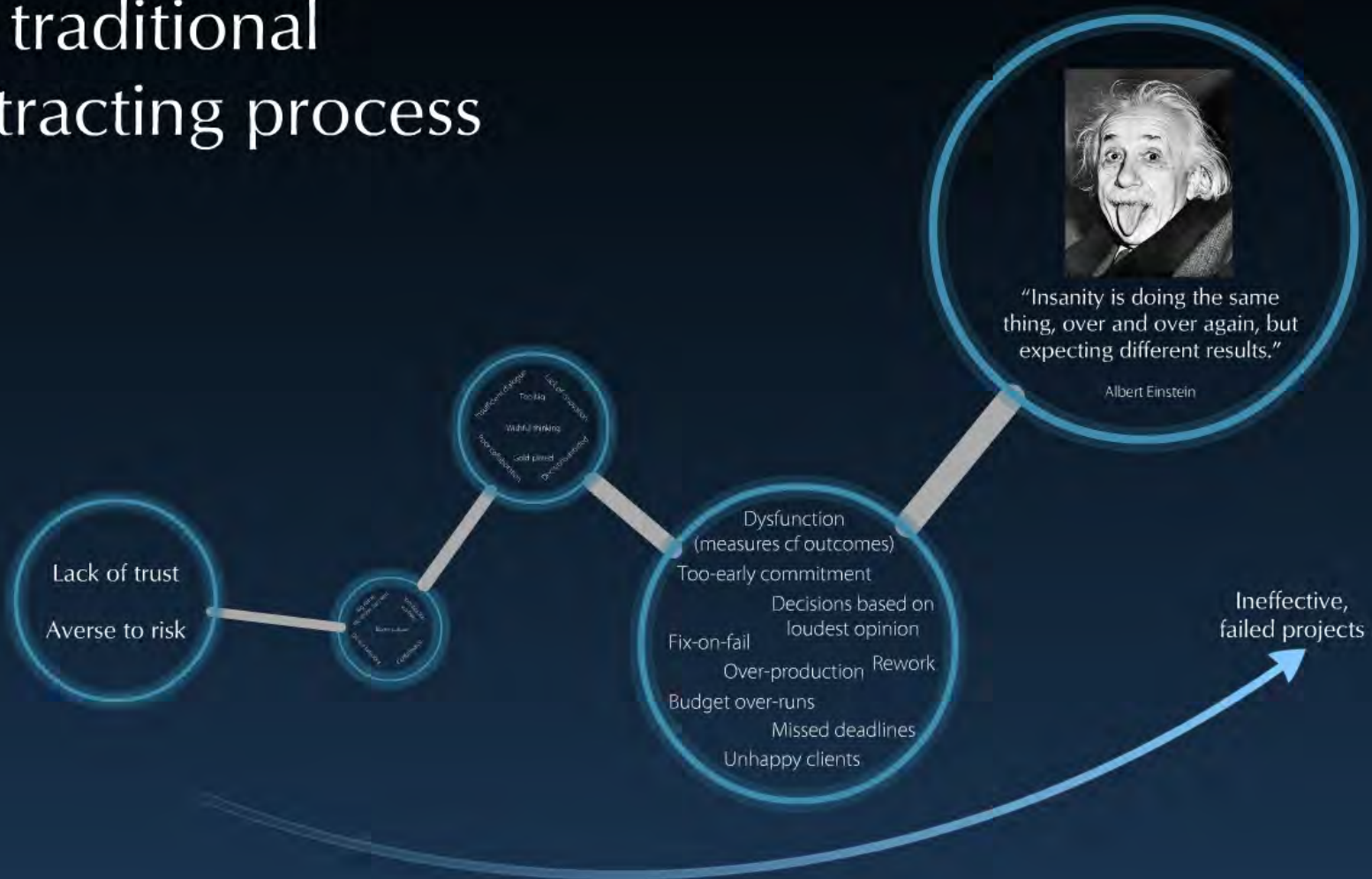
Unhappy clients



“Insanity is doing the same thing, over and over again, but expecting different results.”

Albert Einstein

The traditional contracting process



"Insanity is doing the same thing, over and over again, but expecting different results."

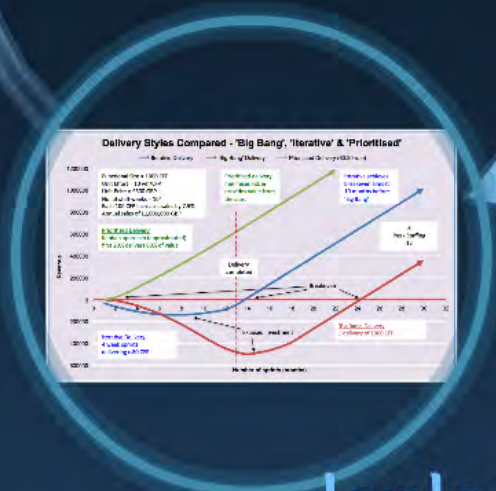
Albert Einstein



learn fast



prioritise value

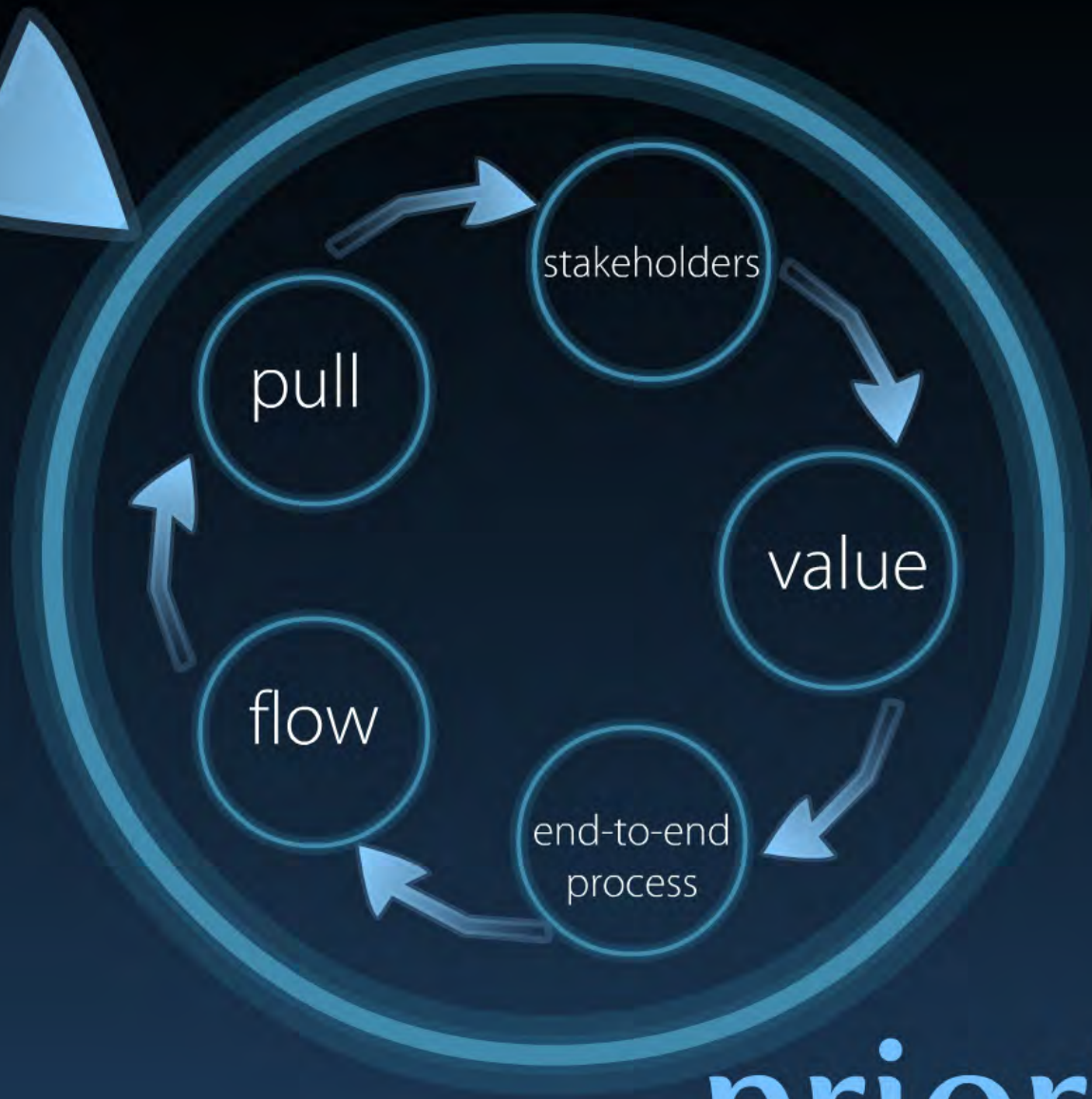


deploy small iterations

Suppliers know how to do better



learn fast

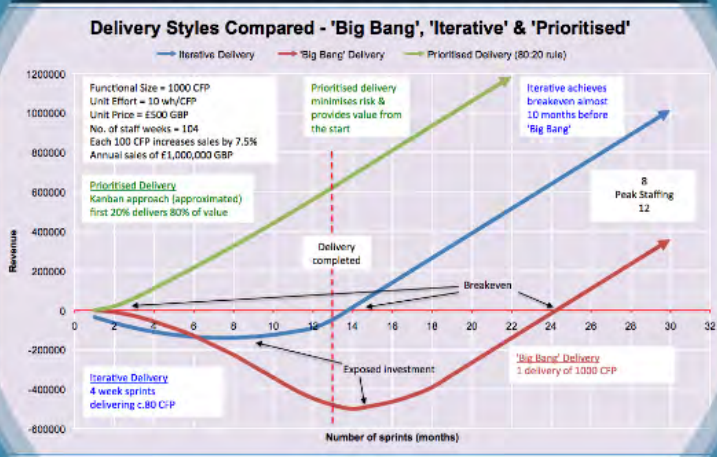


prioritise value

learn fast

end-to-end process

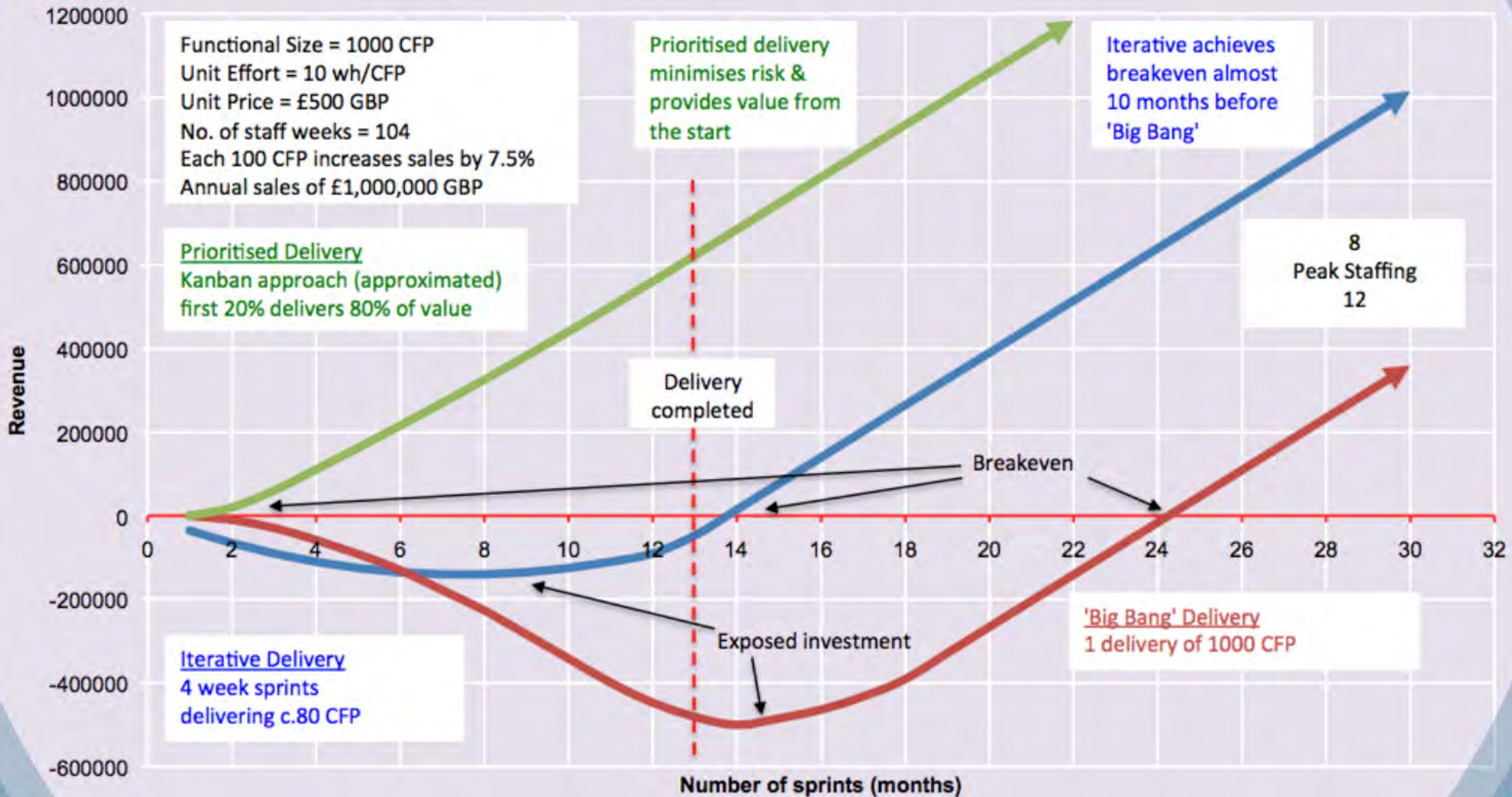
prioritise



deploy small iterations

Delivery Styles Compared - 'Big Bang', 'Iterative' & 'Prioritised'

→ Iterative Delivery
 → 'Big Bang' Delivery
 → Prioritised Delivery (80:20 rule)

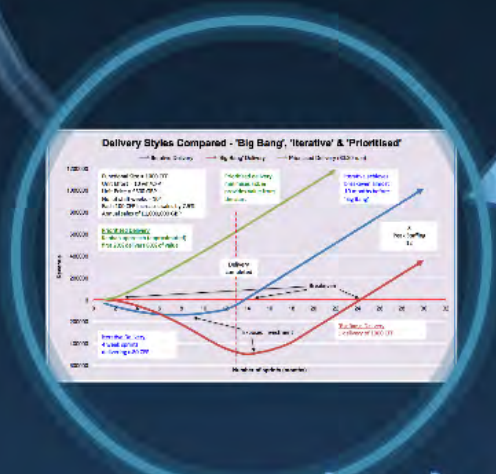




learn fast



prioritise value



deploy small iterations

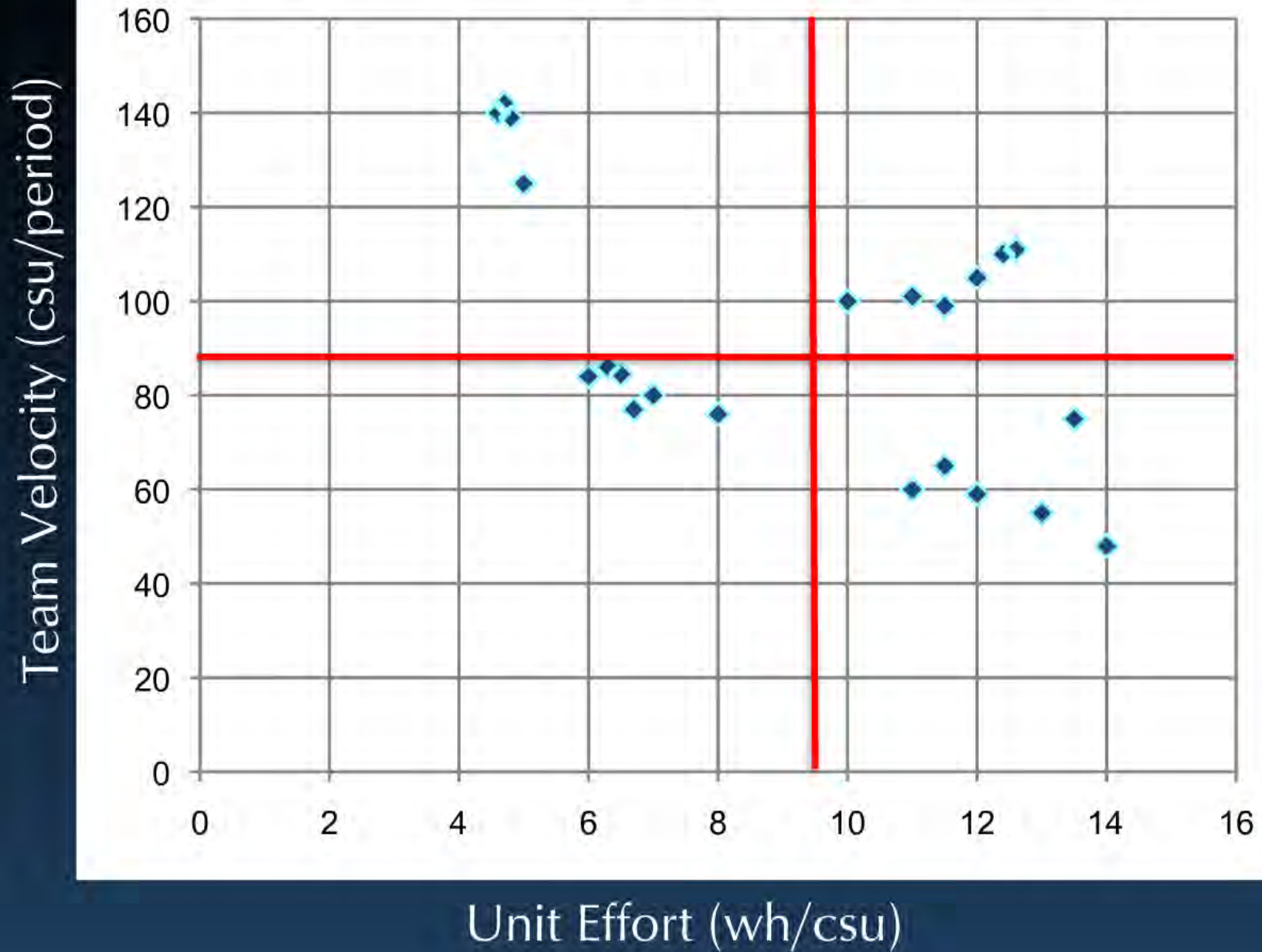
Suppliers know how to do better

Suppliers necessarily manage process performance in order to ensure a profit

- Concentrate on familiar business domains & product types
 - 80% enhancement-of-legacy cf. 20% new development
 - Standardise processes tailored to specific project types
 - Build, sustain & retain developer & team capability
 - Use & improve familiar development technologies
-
- Stable processes with controlled variation in performance
 - Successive projects exhibit similar qualitative requirements

Projects typically
fall into groups. ■

Unit-Effort of Team Velocity



Commodities vary in price depending on their characteristics

Different types of potato attract different prices

Organic baby
new potatoes
£1.17 per Kg



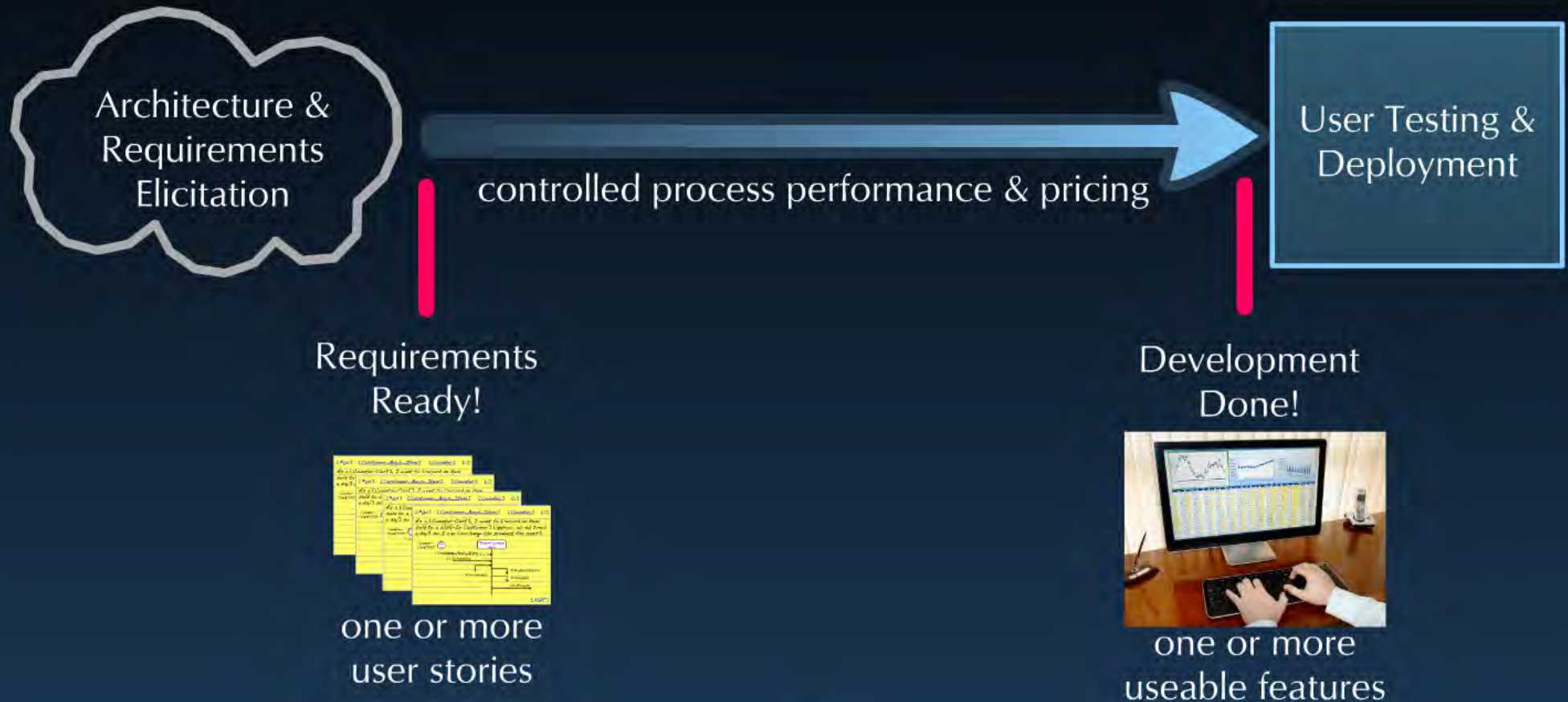
Old storage
baking potatoes
£0.59 per Kg


The customer then adds value - creating different meals



The supplier is paid for the commodity, not the value-added

Operational Excellence - Commodity Pricing





business strategy,
enterprise architecture,
user acceptance &
deployment is outside
the costed scope

Unit-cost x Quantity = Cost of Software Development

Profile (stereotype) for Type-A Projects

The matrix is divided into several categories: SCALE FACTORS, EFFORT MULTIPLIERS, PRODUCT, PLATFORM, PERSONNEL, and PROJECT. Each category contains a grid of numerical values. A large '80' is overlaid on the matrix, indicating a specific value or average. To the right of the matrix, there are several text labels: 'Predefined base', 'Feasibility', 'Arch & Eval. Resolution', 'Team Cohesion', 'Process Maturity', 'Reliability', 'Toolable D/b', 'Documentation match to SOW needs', 'Complexity', 'Required Reusability', 'Time Constraint', 'Storage Constraint', 'Platform Viability', 'Analyst Capability', 'Applications Experience', 'Programmer Capability', 'Platform Experience', 'Language & Tools Experience', 'In-Skills Continuity', and 'Use of Tools', 'Schedule Compression', 'Multi-site Development'.

Unit-effort = 8 wh/csu

Unit-cost = £400 GBP/csu

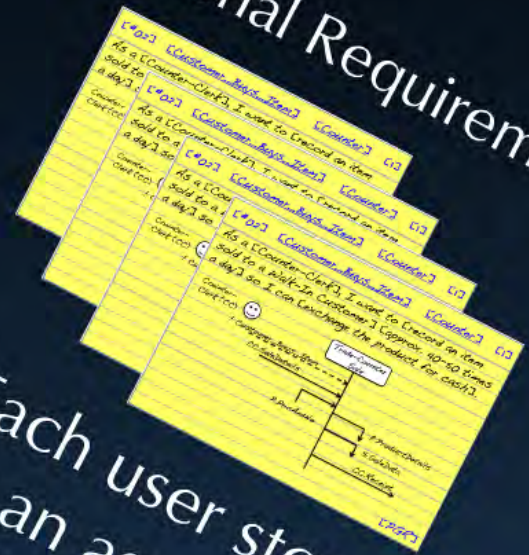
Team-velocity = 80 csu/sprint

X

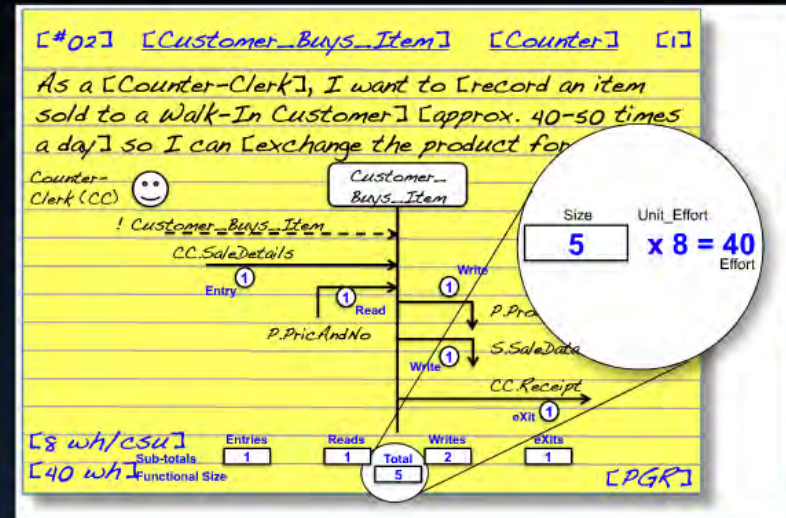
plus an acceptable profit margin

Functional Requirements

Each user story has an associated COSMIC size

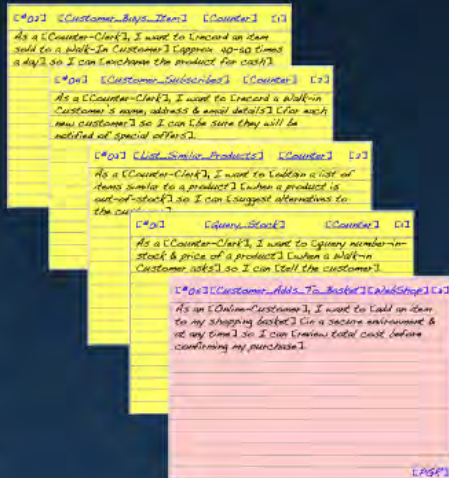


Unlike 1st generation functional sizing methods (eg. IFPUG), the 2nd generation COSMIC method does not require a 'big-design-up-front' analysis of the data stores.



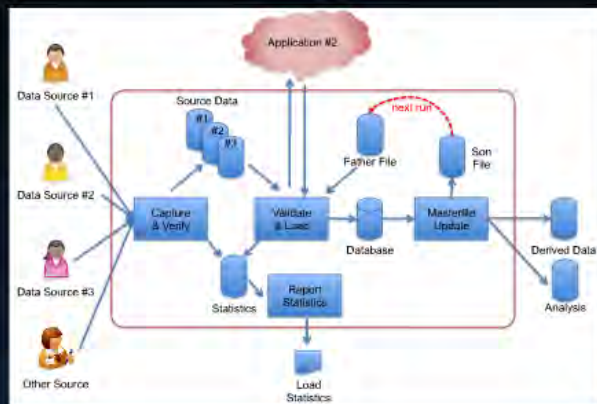
size per story

sprint backlog



Functional size is additive. So the size of any group of user stories (functional requirements) is the sum of the size of the individual stories.

Case Study of a simple Agile Development

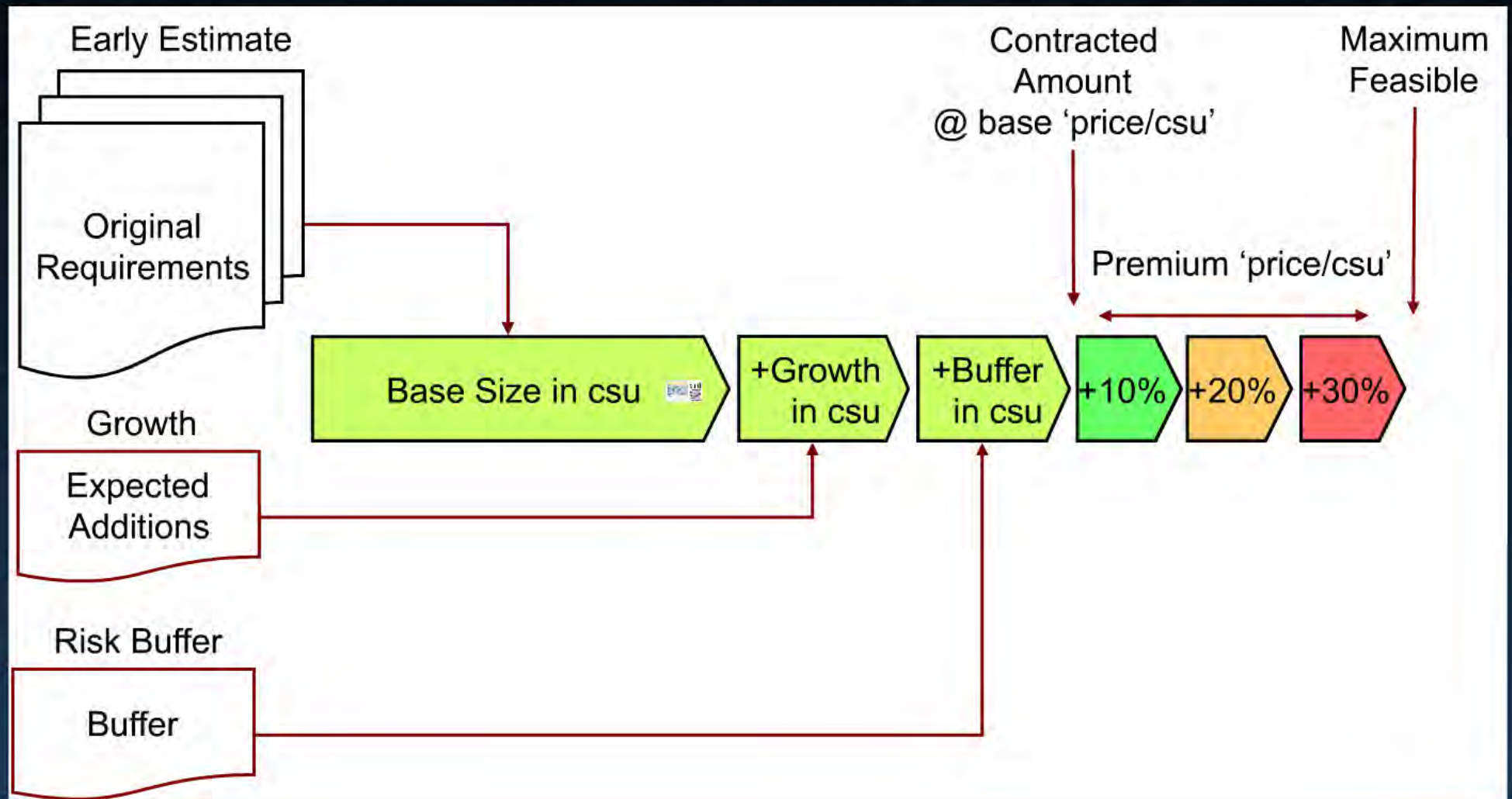


USER STORY	COSMIC SIZE
#01 Pre-load & verify	6
#02 Merge Files	6
#03 Publish_Statistics	5
#04 Extract_One	10
#05 Extract_Two	5
#06 Extract_Three	9
#07 Add_Master_Record	18
#08 Chg_Master_Record	18
#09 Del_Master_Record	11
#10 Add_Ancilliary	18
#11 Chg_Ancilliary	18
#12 Del_Ancilliary	11
#13 Add_Supplementary	18

TOTAL SIZE = 153 csu
 Median size = 11.00
 Mean size = 11.77

- Unit-effort (median) _____ = 7.69 wh/csu
- FTE cost (median) _____ = £360 GBP/FTE
- Process Efficiency 80% = 6.4 wh/FTE day
- Unit-cost _____ = £433 GBP/csu
- Backlog Size _____ = 153 csu
- Estimated Staff Effort _____ = 184 FTE days
- Est.Development Cost _____ = £66,250 GBP
- Actual _____ = 175 FTE days
- Fees charged _____ = Proprietary
- Estimate of Actual _____ = +5%

Separate contract pricing from detailed specification



'Box' the duration & cost of architecture & deployment

Product Owner's role...

- Identifying stakeholders
- Confirming stakeholder needs
- Understanding 'value'
- Prioritising the requirements
- Collaborating with developers
- Getting 'Requirements Ready'

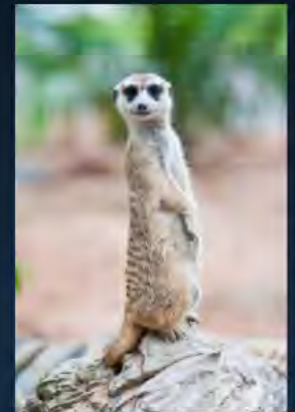
Suppliers contribution...

- Collaborating with stakeholders and the Product Owner
 - Investigating solution options
 - Controlling work-in-progress
 - Working with stakeholders to remove impediments
-
- Standard terms re: intellectual property, confidentiality, termination, liability, insurance, etc can be applied
 - Keep requirements in a separate schedule

The role of the Independent Quantity Surveyor



- Trusted 3rd party – objective, fact-oriented
- Advises on pricing & price comparisons
- Audits Project Profiles as relevant
- Evaluates progress cf. plans, risk
- Performs initial estimates
- Facilitates clear communication
- Revises estimates periodically
- Provides visibility & tracks changes in scope
- Transfer of knowledge & skills



Conclusion

Customers want...

- Value-for-money
- On-time delivery
- The benefits expected
- A trustworthy supplier
- Control of what is built

Suppliers want...

- A reasonable profit
- Acceptable risk:reward ratio
- To satisfy & retain customers
- Effective collaboration
- Respect for professional skills

Output-Based Agreements & commodity pricing
incentivise both customers & suppliers to be effective

If you have been, thanks for listening



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