

The Future of Enterprise Architecture and Innovation



ABACUS HAS REACHED
100 COUNTRIES



... AND OVER
2000
COMPANIES

3000 ABACUS CERTIFIED
ENGINEERS



6 OFFICES
WORLDWIDE



LEADER IN
GARTNER MQ +
FORRESTER WAVE



YEAR ON YEAR
GROWTH IN
EXCESS OF
30%

OVER
50
PARTNERS

WE WORK WITH CLIENTS FROM
8 MAJOR INDUSTRIES

FINANCE



CONSUMER



GOVERNMENT



EDUCATION



TRANSPORT



TECHNOLOGY



INFRASTRUCTURE



HEALTHCARE



SUPPORTS
100+
FRAMEWORKS



TOGAF®



GARTNER PEER INSIGHTS



15 YEARS LEADING ENTERPRISE
ARCHITECTURE



About our experts



Tim O'Neill

Founder, Avolution

PhD and 100's of papers · 20 years as Enterprise Architect on major projects · Submarines, Network Monitoring, Global Fortune 500 Transformations.



Stuart Macgregor

CEO, Real IRM

Enterprise Architecture and IT Governance specialist, providing training and expertise in South Africa and internationally.



Dimitrius Livadas

Head of IT Enterprise Architecture and Governance at CIB BNP Paribas.

Background in EA, Business Architecture, Technology, Transformation, IT Operations & Programme Management.



Ed Granger (Facilitator)

Discipline Specialist - Avolution

10 years as Enterprise Architect in Financial Services · Information Architect · Interested in the convergence of EA and Digital

Agenda

- Forces and trends
- Architecting Tomorrow's Technologies
 - IoT
 - AI / ML
 - Future Legacy
- EA in the near future
 - Future of the Profession (Certifications, Training)
 - Future of the Practice
 - Future Tools & Techniques

PLEASE:

- Mute your lines
- Drop your questions or comments in the chat window
- The speakers will aim to respond to some of these as they go
- (although responding to all of them won't be possible)

Forces & Trends

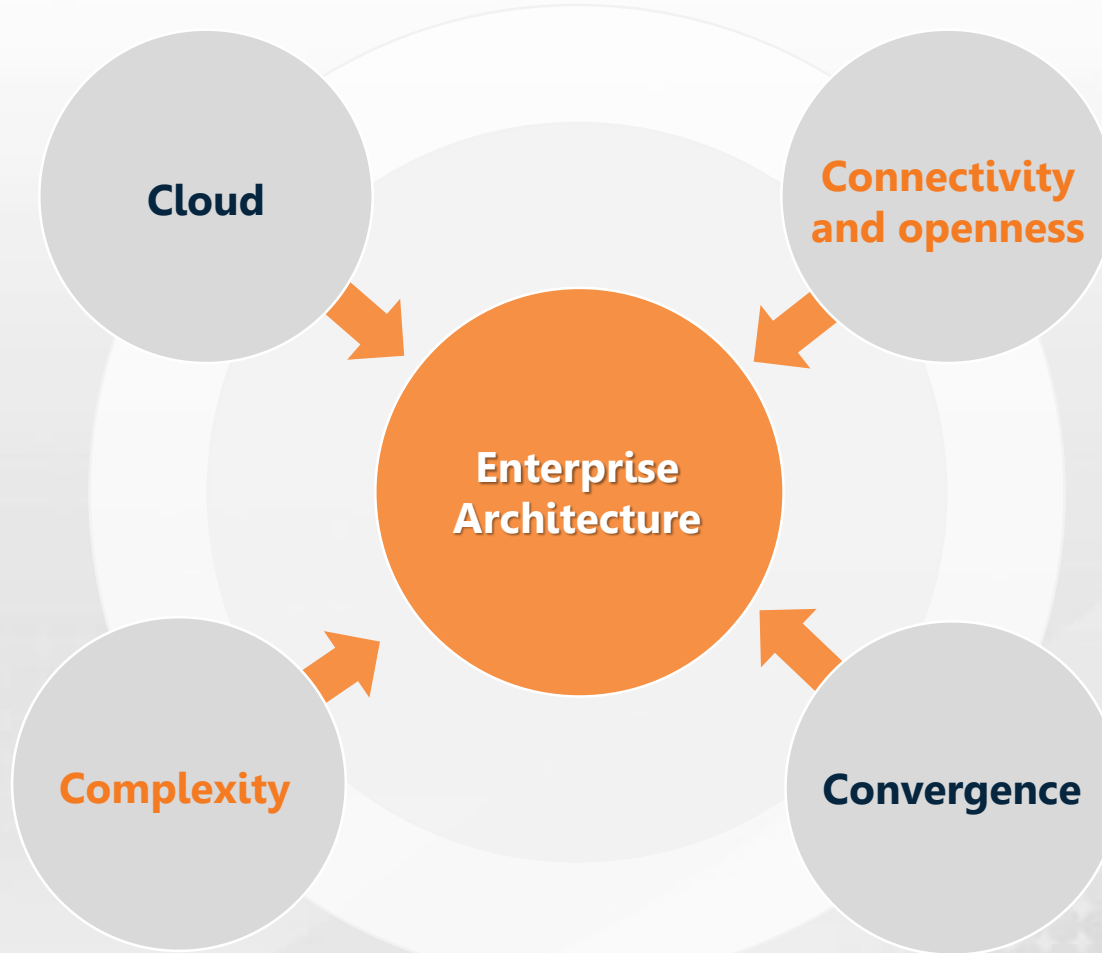
Forces and trends – The Four C's

New flexibility and new risks

- Accessibility, scalability, innovation, but also security and compliance risks.
- “Cloud Handcuffs” – risks of being tied to big cloud suppliers.

The “legacy stack” and new drivers of complexity

- New technology will drive massive increase in volumes and complexity of information processing.
- CX and Operations must run smoothly across multiple generations of technology.



Increased interaction and threat

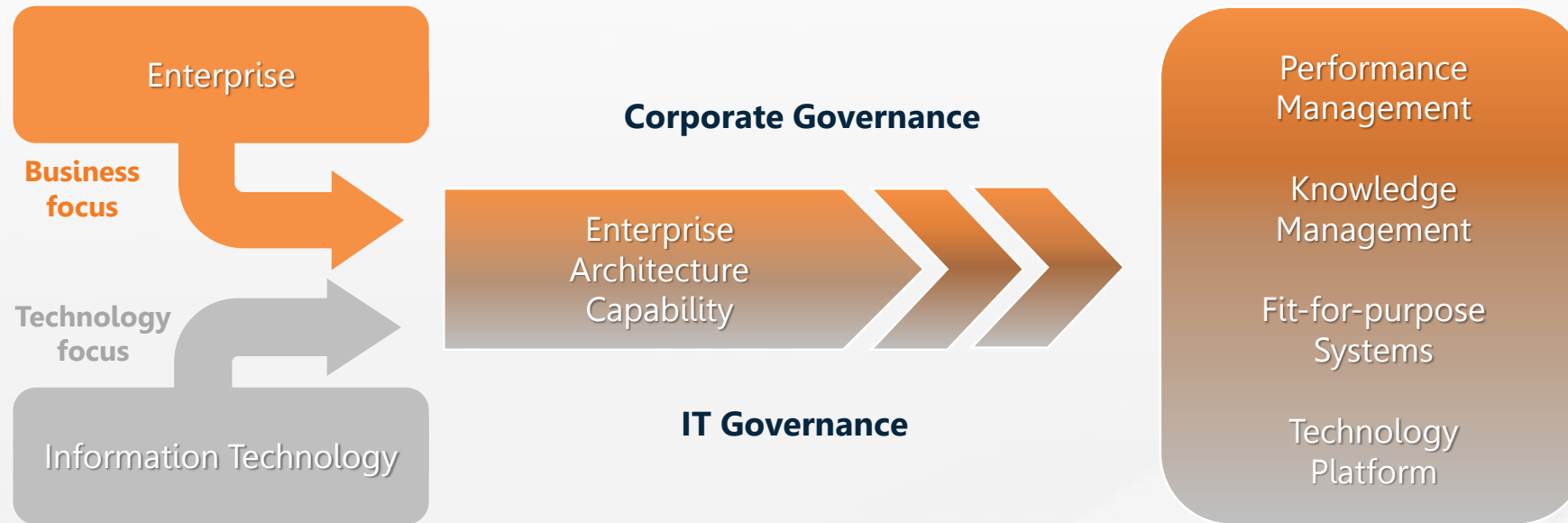
- The organisation boundary extends into an ecosystem.
- Not just cyber, also (via IoT) connections with infrastructure and utilities: power grids, water supply, traffic control, connected devices and vehicles.

IT has become the business, the business has become IT

- Business leaders must understand technology and data architecture.
- Opportunity for EAs, as cross-disciplinary abilities are in demand.

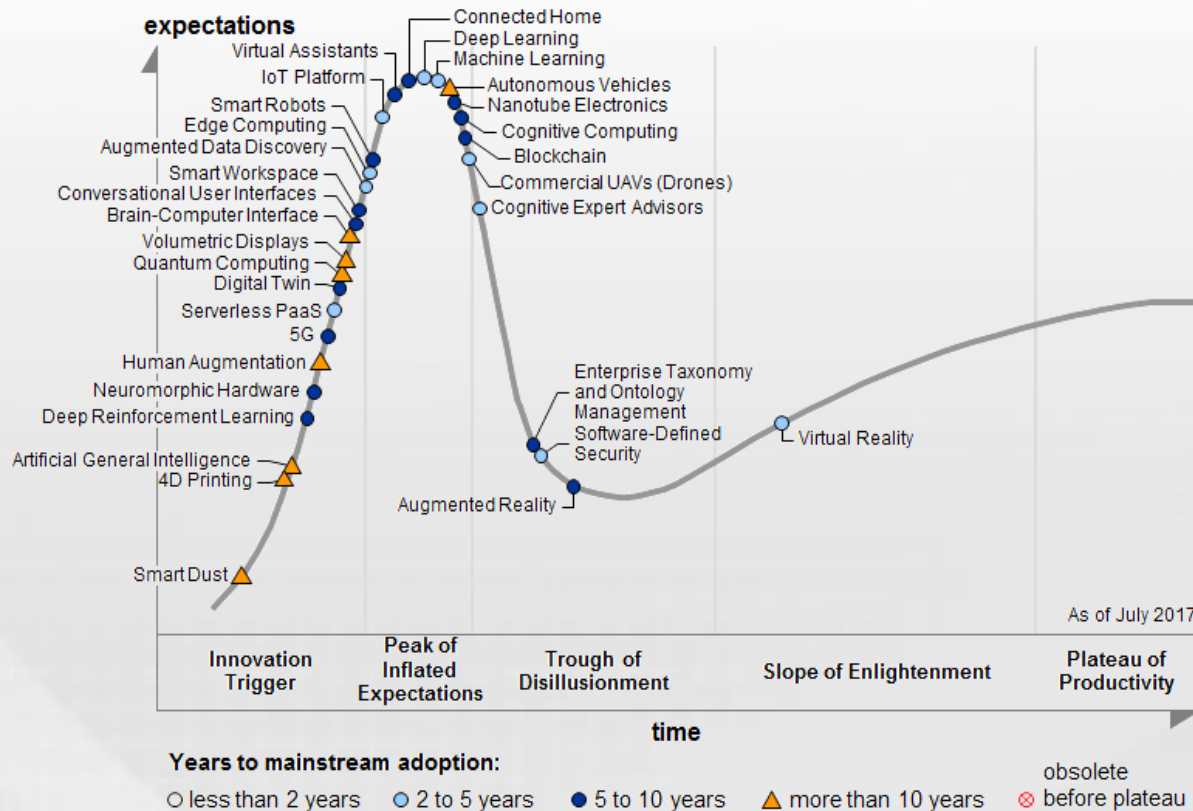
Enterprise Architecture is a Strategic Imperative

Enterprise Architecture (EA) is required to transform a legacy of fragmented applications, organisational structures and processes (both manual and automated)...



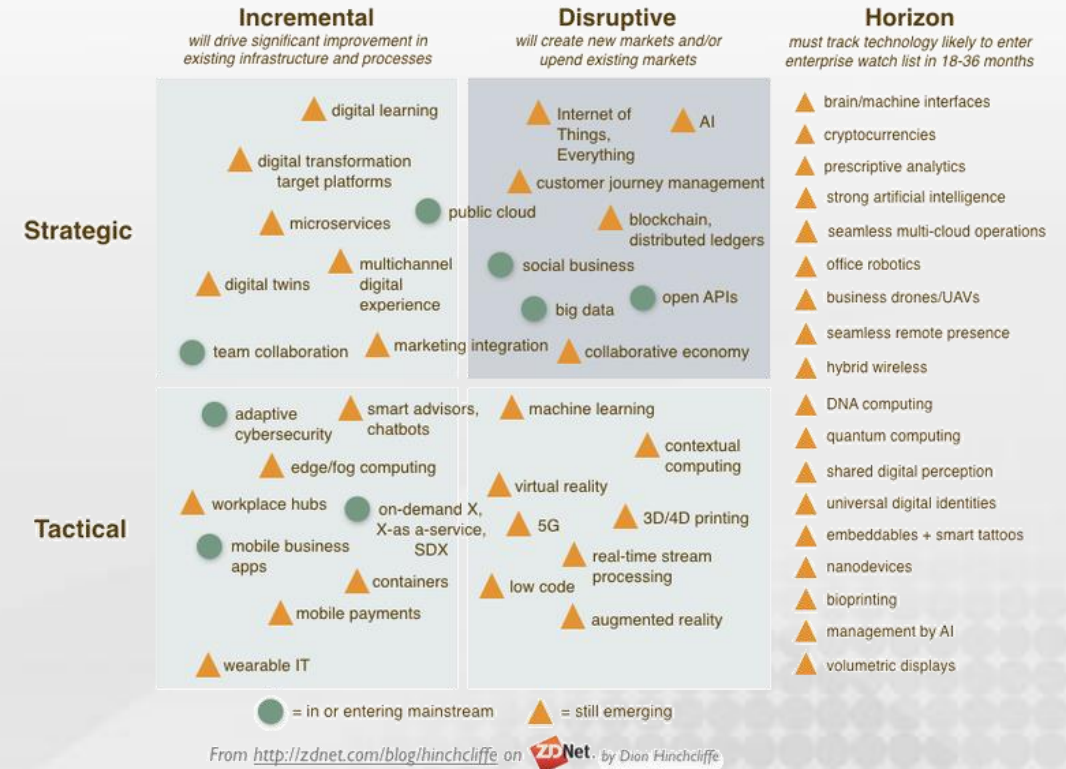
...into an integrated environment with optimised processes that are responsive to change and the delivery of the Business strategy.

Forces and trends – Future Technologies



Hype Cycle for Emerging Technologies: Gartner July 2017

Technologies to Watch for the Next-Generation Enterprise in 2017



Forces and trends – Future Technologies

“Big data is like teenage sex: everyone talks about it, nobody really knows how to do it, everyone thinks everyone else is doing it, so everyone claims they are doing it...”

“We tend to overestimate the effect of a technology in the short run and underestimate the effect in the long run”

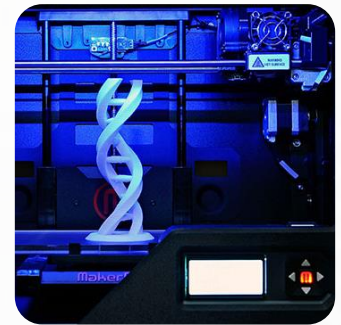
-Amara's law



Speeding towards us...

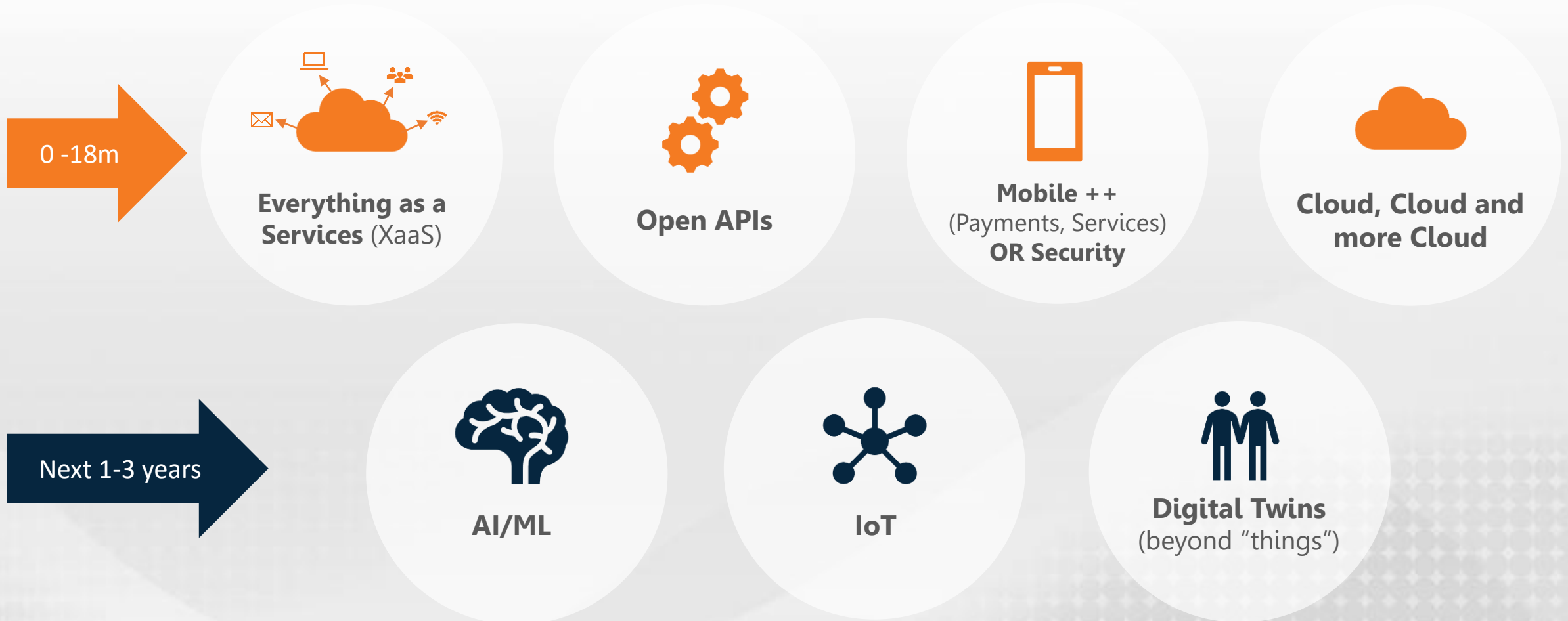


Rio Tinto competes first fully autonomous rail journey in Western Australia



Architecting Tomorrow's Technologies

Future Technologies



Architecting Tomorrow's Technologies - IoT

"The end-game of IoT will often be about providing better services (via interconnected devices) or via "wiring in" infrastructure (e.g. in smart cities)."

Where will IoT create value in my organisation, and where will it not?

How do I ensure partner interoperability?

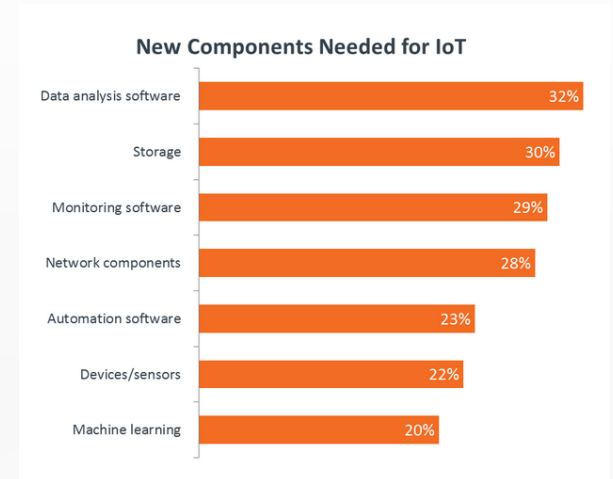
Which businesses will be the flag-bearers for IoT adoption?

How can EAs stream out high-value data from "noise" and "digital exhaust"

How do I keep information and networks secure and compliant with regulation?

How do I integrate with legacy systems and processes?

IoT Reality Check



Source: CompTIA

A recent survey found: "The number of firms saying they had **no immediate plans for IoT** jumped from 15% in 2016 to 34% in 2017."

Similar phenomenon as cloud computing : enthusiasm inflates adoption numbers, but improved understanding brings a reality check.

Architecting Tomorrow's Technologies – Architecting AI/ML

Where will AI create value in my organisation, and where should it not be deployed?

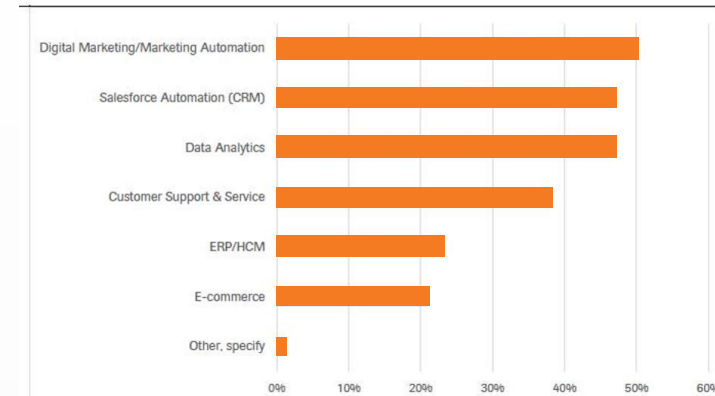
How do I ensure that black-box AI processes comply to regulation?

How do I integrate AI with existing processes and technologies?

How do I scale up AI prototypes to become enterprise-scale solutions?

How do I guard against unintended consequences that may have financial or reputational damage?

What are some of the areas in software that are ripe for AI/ML investment?



Source: Cowen and Company IT Survey May 2017 (N= 146)

“By 2019, more than 10% of IT hires in customer service will mostly write scripts for bot interactions.”

Source: Gartner “Predicts 2017: AI”

AI Early Adopters

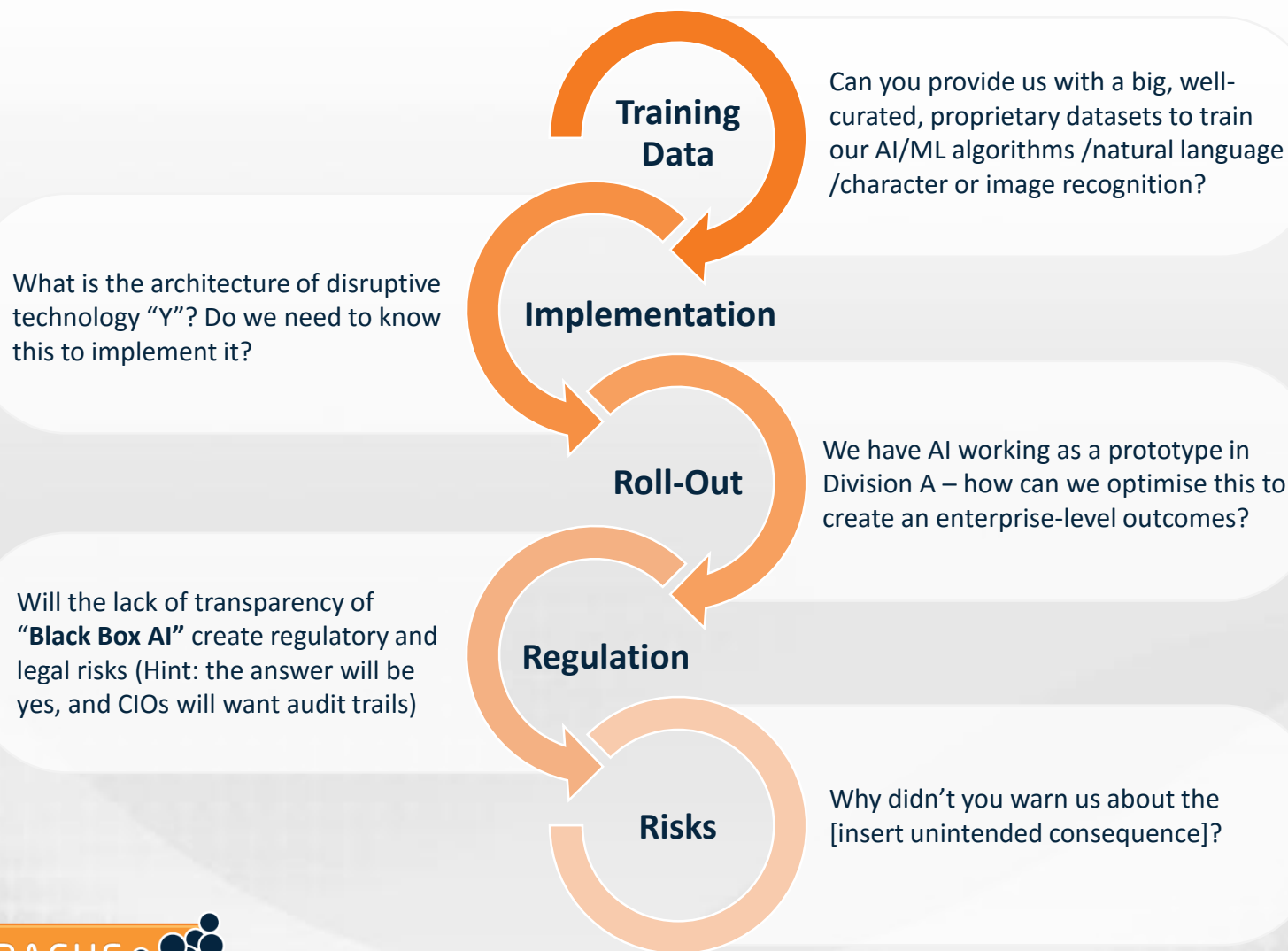
- Fintech
- Healthcare
- Transportation
- Retail/E-Commerce

AI Top Use Cases

- Algorithmic trading
- Image recognition/tagging
- Patient data processing
- Predictive maintenance and content distribution (social)

Source: Tractica

Architecting Tomorrow's Technologies – Architecting AI/ML



Machine Learning Application Stack			
Applications	Intelligent Services: Enterprise Apps, Consumer Apps, Vertical-Specific Apps, Custom Apps		
Interfaces	Messaging	Speech	Vision
Platforms	Machine Learning Frameworks and Algorithm Libraries		Machine Learning APIs and Advanced Analytics Platforms
Tools	Data Collection and Ingestion		Data Preparation and Blending
Infrastructure	Data Stores	Infrastructure-as-a-Service	High-Density Computing



Architecting Tomorrow's Technologies – Legacy

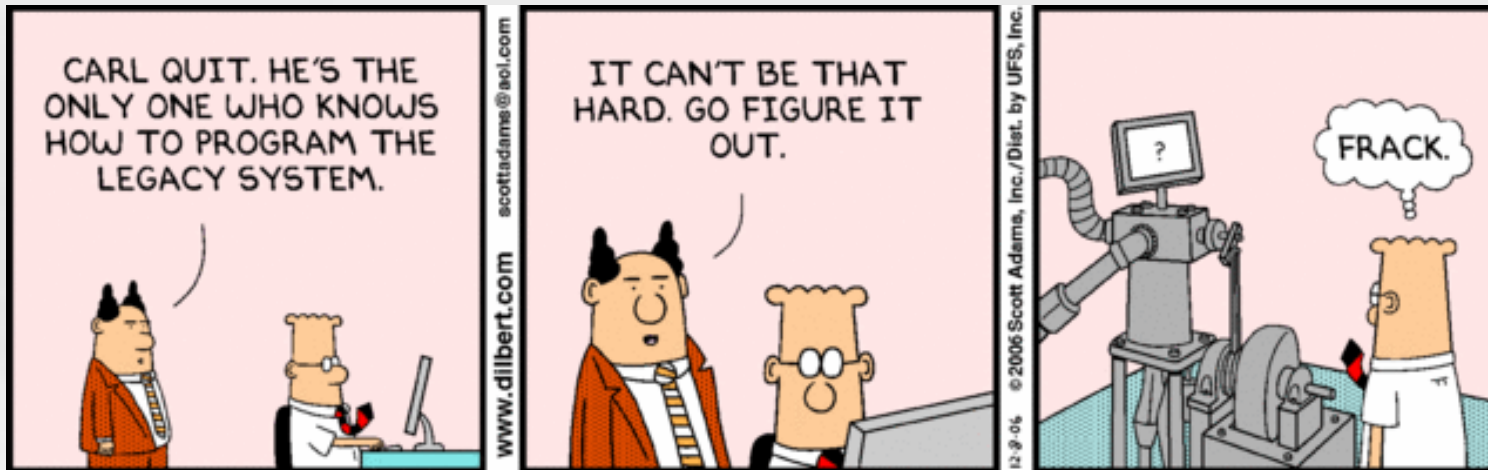
- Legacy technologies and technical debt are huge issues for most companies
- Successful, long-lived enterprises will have to integrate multiple generations of technology into seamless CX and Operations - **and keep doing it.**

“Welcome to the digital era, in which today's shiny new technologies are tomorrow's legacy systems.”

*-Joe McKendrick,
Forbes*

“Banks typically spend 80% of their IT budgets on legacy technology maintenance and 92 of the world's top 100 banks still rely on IBM mainframes...”

*Financial News London,
September 12, 2017*



EA in the New Era

Future of the Profession

What skills will the most employable EAs have in 5-10 years?

What skills/knowledge is going to give me credibility/authority?

What certifications - Will **TOGAF and **ArchiMate** certification be important?**

PEOPLE

Talent

Staffing

Roles

RACI / RASCI

Performance Management

Education

Interpersonal

Frameworks

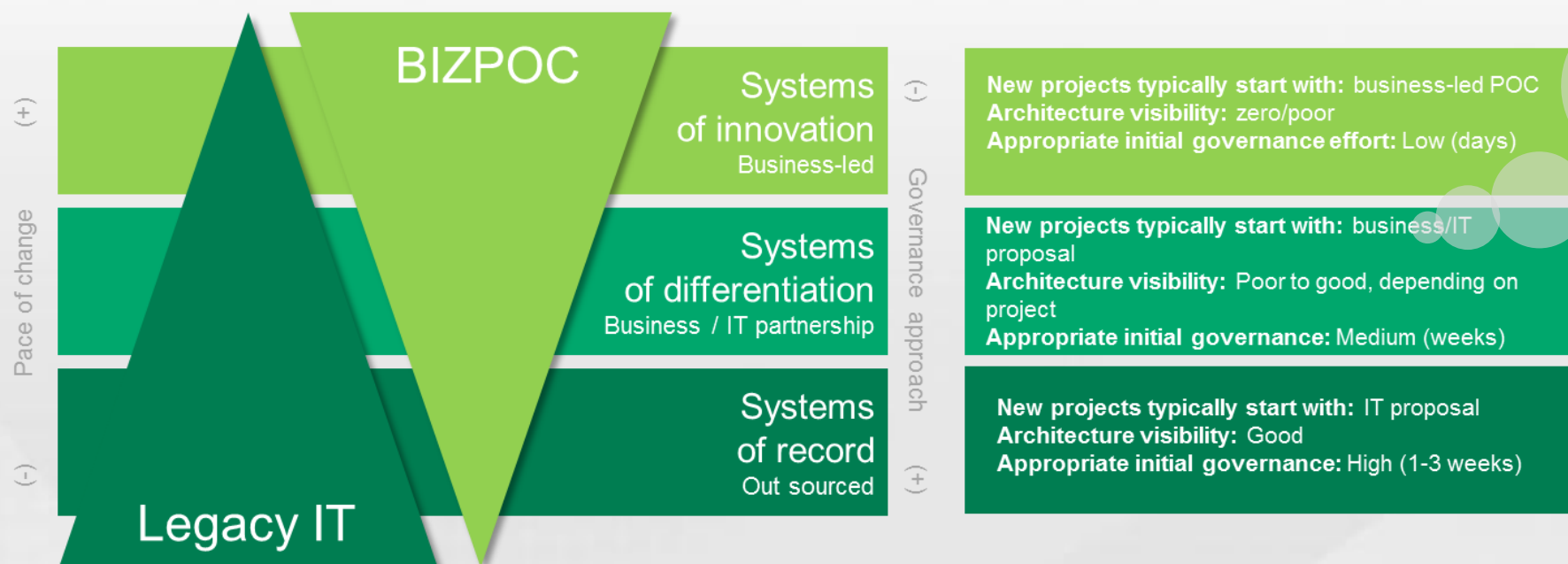
Profession

Tools

Techniques

Future of the Practice - Context

IT no longer the sole preserve of IT, with key areas of business demanding less governance, quicker results and more control.



Source: elements from Gartner

How will EA:

- Support innovation between/ across business and IT?
- Reduce time to market, cost and risk for new applications?
- Break silos, drive a client-centric approach?

.....while still effectively steering higher risk / slower moving legacy IT.



Future of the Practice – Organising and Governing for Digital EA and Agile



EA still organised to deliver this....
Cologne Cathedral, took 640 years to complete



....when the business really want lots of these....
2015 RIBA house of the year nomination, built from four shipping containers

Organisation

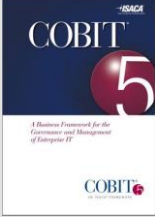
- **Who will EAs report to?** – the role of the Chief Digital Officer
- **What roles will successful EA teams need?**
- **Will the EA team be embedded in LOBs or centralized?**
- **Is EA “a hybrid disciple between engineering and politics”, how are the politics going to change?**

EA Approach and Governance

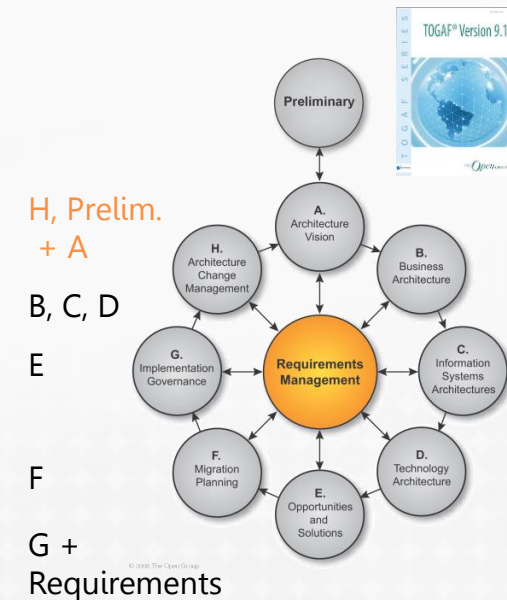
- **Will the value of EA primarily be its ability to span all “missions and functions”?**
- **How can EA keep ahead of accelerating volume of demand?** (far exceeding the bandwidth of a centralised EA team to model it).
- **What impact will security threats and governance risks have?**
- **What new techniques/technologies can give EAs an edge?**
 - Automation
 - AI for “reading” project documents? ☺
 - Mass-federation of architecture and self-service architecture for each LOB
 - Algorithms for analysis
 - Roadmaps for 1, 3, 6, 12 months

Linchpin between Corporate and IT Governance

AP003 RACI Chart

 Key Management Practice	Board	Chief Executive Officer	Chief Financial Officer	Chief Operating Officer	Business Executives	Business Process Owners	Strategy Executive Committee	Steering Committee	Project Management Office	Value Management Office	Chief Risk Officer	Chief Information Security Officer	Architecture Board	Enterprise Risk Committee	Head Human Resources	Compliance	Audit	Chief Information Officer	Head Architect	Head Development	Head IT Operations	Head IT Administration	Service Manager	Information Security Manager	Business Continuity Manager	Privacy Officer
AP003.01 Develop the enterprise architecture vision		A	C	C	R	C	R					C	R	C	C	C	C	R	R	C	C	C		C		
AP003.02 Define reference architecture		C	C	C	R	C	R					C	A	C	C	C	C	R	R	C	C	C		C		
AP003.03 Select opportunities and solutions		A	C	C	R	C	R					C	R	C	C	C	C	R	R	C	C	C		C		
AP003.04 Define architecture implementation		A	C	R	C	C	R					C	R	C	C	C	C	R	R	C	C	C		C		
AP003.05 Provide enterprise architecture services		A	C	R	C	C	R					C	R	C	C	C	C	R	R	C	C	C		C		

- Direct mapping between COBIT® 5 and TOGAF
- **Synergy between EA and IT Governance**

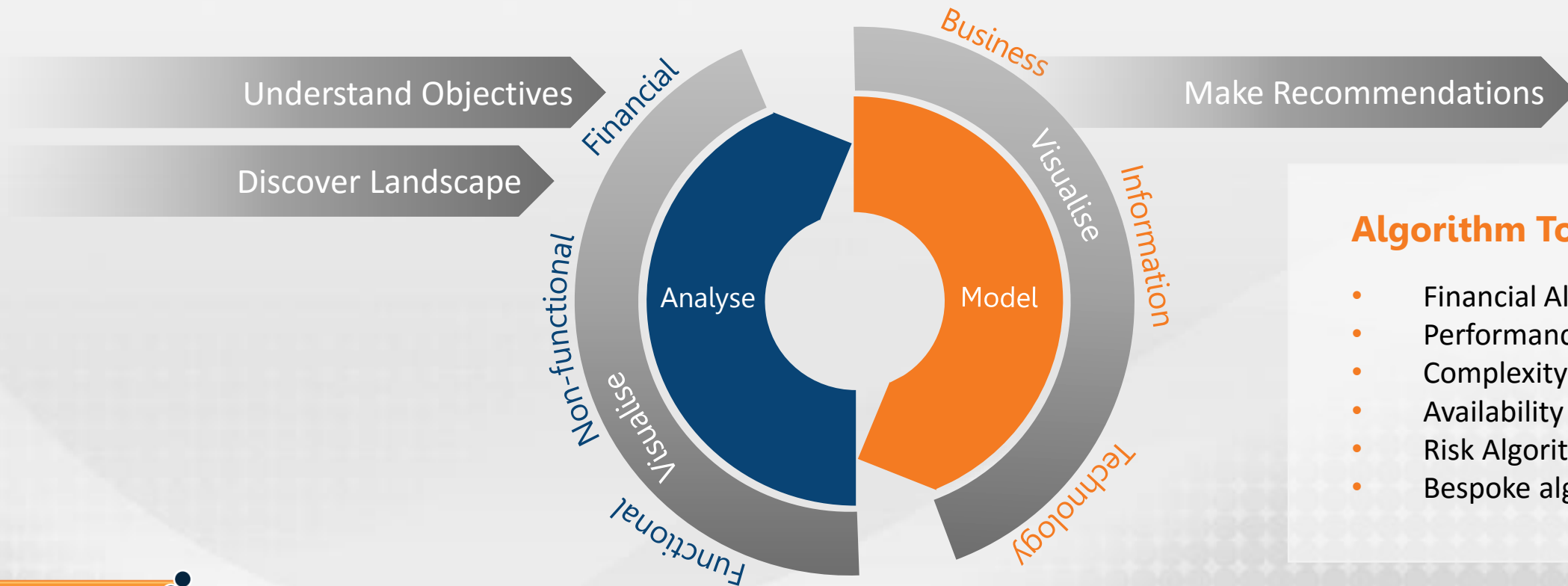


Future tools, techniques: delivering architecture missions

- **Culture change:** executives already balk at making decisions without guiding data & analytics
 - Architecture-based analytics will be a go-to for rapid enterprise “prototyping”, as demand for guiding data accelerates
- **Enterprise platforms** that are data- and source-agnostic will thrive. Those that can’t adapt to and consume existing data will struggle and hold back the business
- **Algorithms and architectures** to analyse scenarios and de-risk technology assimilation
- **Real-time, collaborative enterprise planning** which is responsive/adaptive to the business
 - Automated modelling
 - Automated reporting
 - Data visualizations tailored to different audiences
 - Making change predictable

Future tools, techniques: delivering architecture missions

- **How do I create the urgency to act - from this mass of new data?**
- How do I ensure regular and rapid course-correction towards strategic objectives



Algorithm Toolbox:

- Financial Algorithms
- Performance Algorithms
- Complexity Algorithms
- Availability Algorithms
- Risk Algorithms
- Bespoke algorithms

Any Questions?




If you'd like to receive a copy of our
Future of Enterprise Architecture deck, email us
contact@avolutionsoftware.com

For additional whitepapers and further enterprise architecture resources
please visit the Resource Center on our website
www.avolutionsoftware.com/resource-center

Thank you!



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or please contact us with any comments or questions

Tim.Oneill@avolutionsoftware.com

