

Getting Creative With The Cloud

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The corporate slides: Young but ambitious



New money into play

New Products Services and Solutions

New Digital Intellectual Assets

New high value jobs

Increased GVA

Sustainability and quality of life

The digital economy – shift happens



'a few years ago a cloud was something in the sky, a tweet was something you heard in the garden, Skype was a typo and 4G was a parking spot'

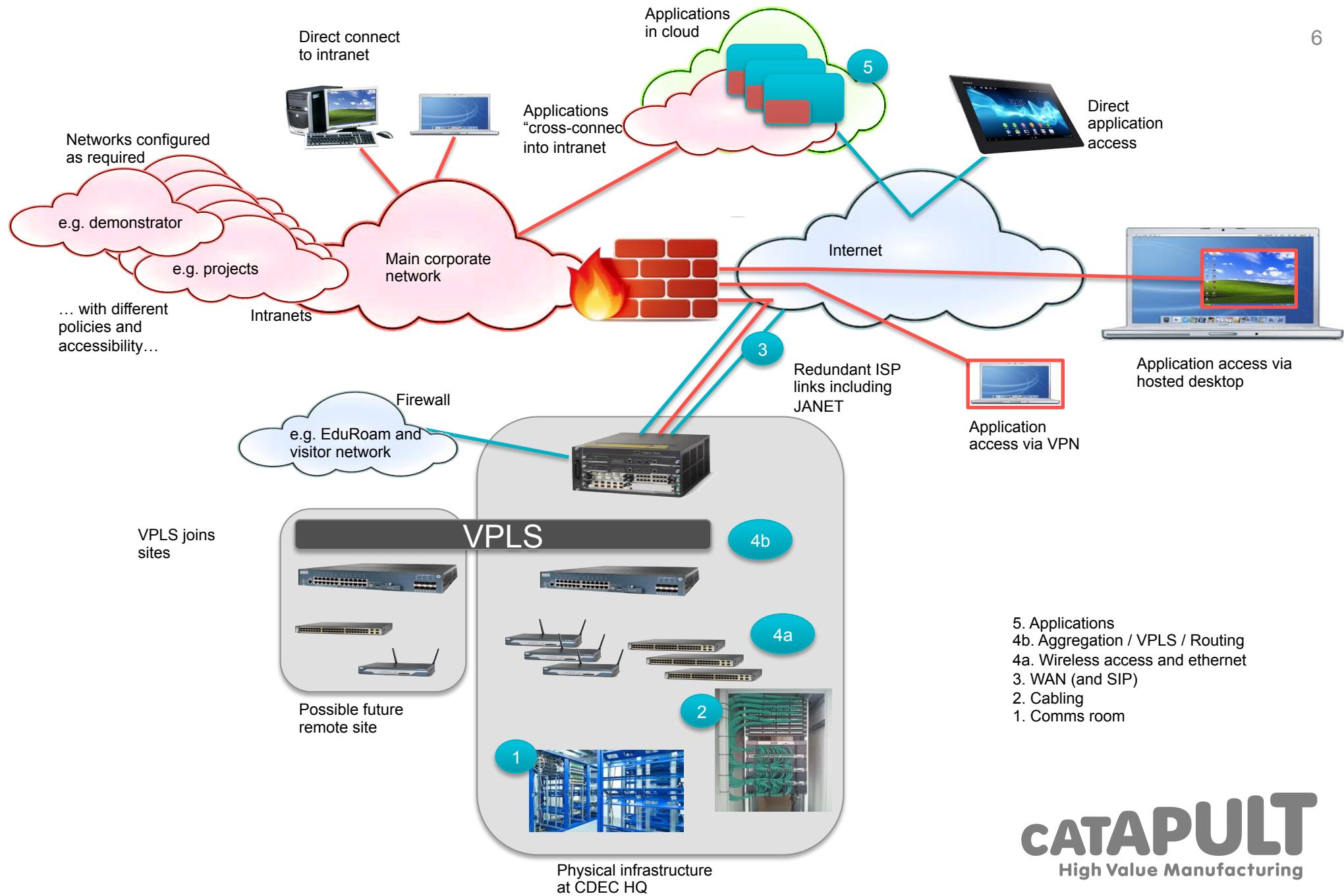
The Data Value Chain (D.V.C.) – our ‘field of play’



Eat the dogfood: Clean slate IT infrastructure

- Intranet starts in the cloud extends to physical network
- All services cloud based but cross-connected to intranet
 - In building only local services – DNS, DHCP, Print etc.
- Co-located services (where possible)
 - so cross-connect in same datacentre – *the cheap bandwidth*
- For all business functions





But what do we actually do?

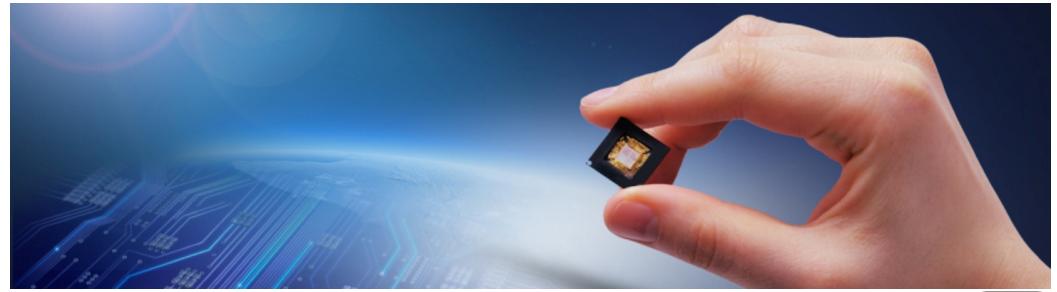
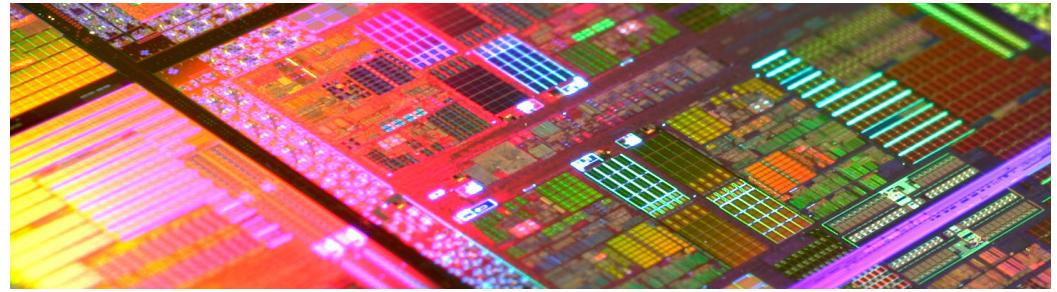
Software development, so:

- build & test in the cloud
 - Continuous integration, build and rigorous test
- Could we turn into SaaS?
 - Encourage best SW dev practice in SMEs

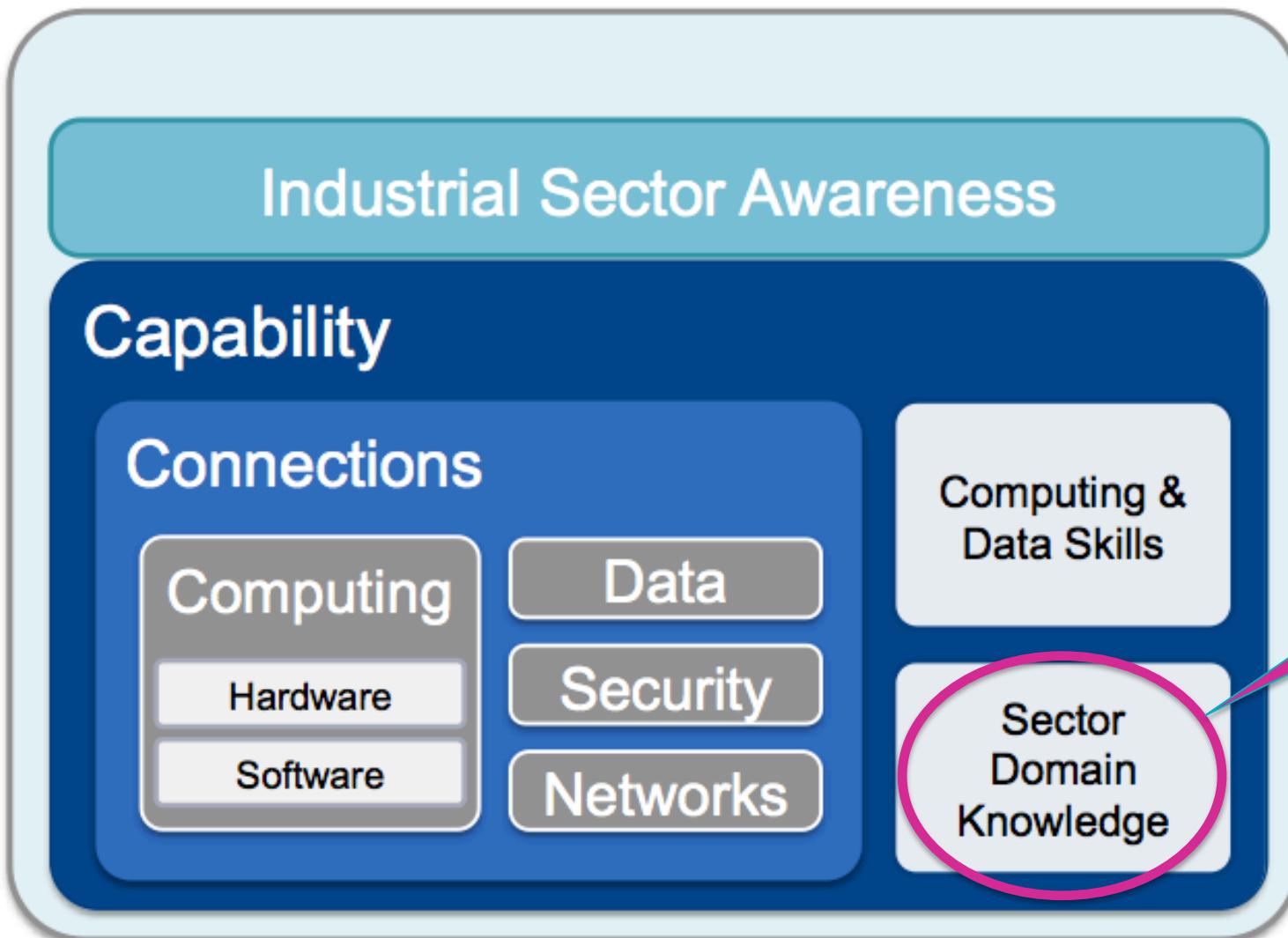
More generally

“Workflow as a Service”

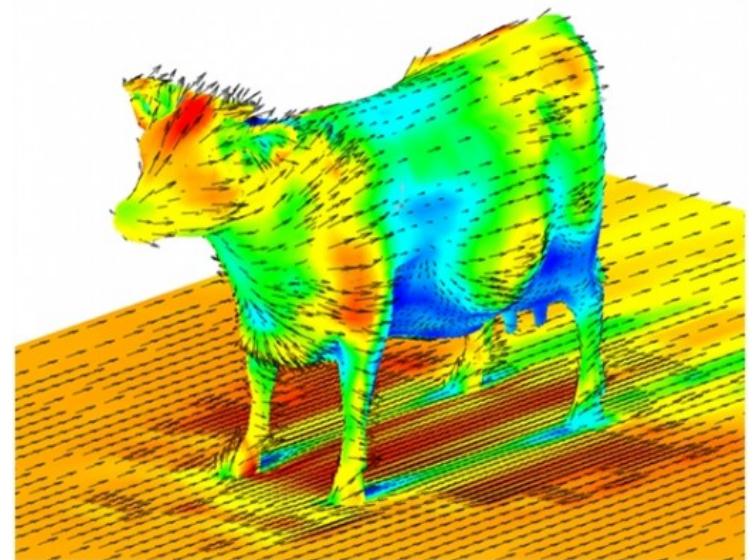
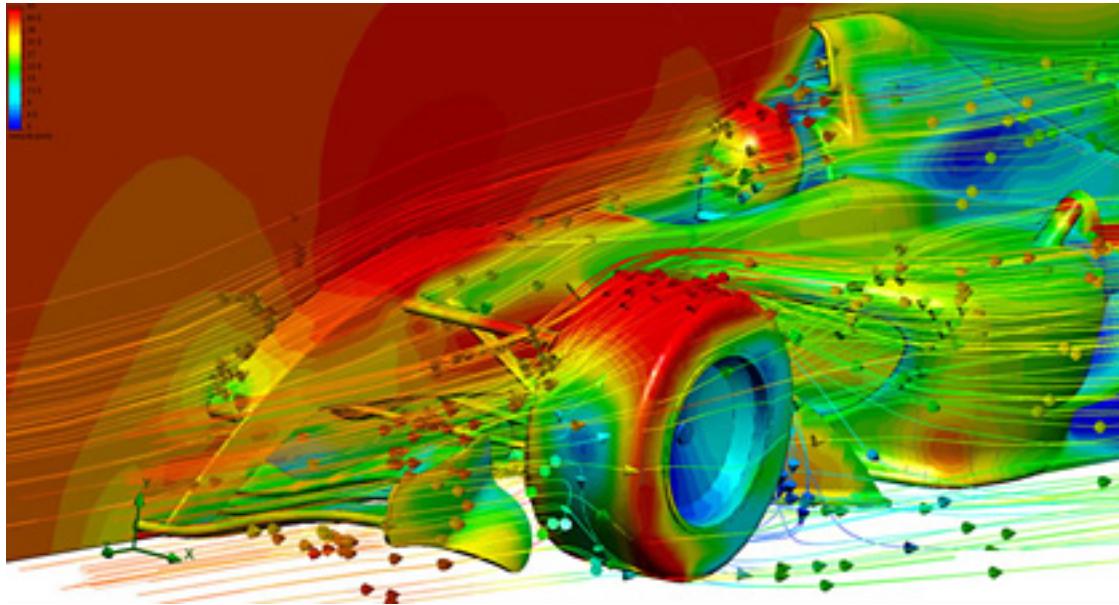
- Si design is complex tool chain
 - Want “cloud burst” at times
 - Flexibility in licensing
-
- IP owners want trusted partner



UK programme on “e-Infrastructure”



The high end of engineering...



- Formula One - CFD replacing wind tunnels
- FIA now limit number of teraflops used
 - Leading to more efficient software!
 - CFD now being embedded in CAD software!

For every new house...

British Standards - Structures and Loadings

[BS 4978 :1996 Specification for visual strength grading of softwood](#)

[BS 5268 Structural use of timber](#)

[BS 5268 Code of practice for permissible stress design, materials and workmanship -2:2002](#)

[BS 5268 Structural use of timber. Code of practice for trussed rafter roofs -3:2006](#)

[BS 5268 Code of practice for the preservative treatment of structural timber -5:1989](#)

[BS 5268 Recommendations for the calculation basis for span tables. Joists for flat roofs -7.2:1989](#)

[BS 5268 Recommendations for the calculation basis for span tables. Domestic rafters -7.5:1990](#)

[BS 5268 Recommendations for the calculation basis for span tables. Purlins supporting rafters -7.6:1990](#)

[BS 5268 Recommendations for the calculation basis for span tables. Purlins supporting sheeting or decking -7.7:1990](#)

[BS 5950 Structural use of steelwork in building](#)

Wind load Calculations to BS 6399:Part 2:1997

[Return to Your Selection](#)

Duopitch Roofs

Town	Cambridge	Basic Wind Speed	23m/sec
Terrain	country		
Distance From Sea	100km	Height Above Sea Level	50m

Pitch 5°

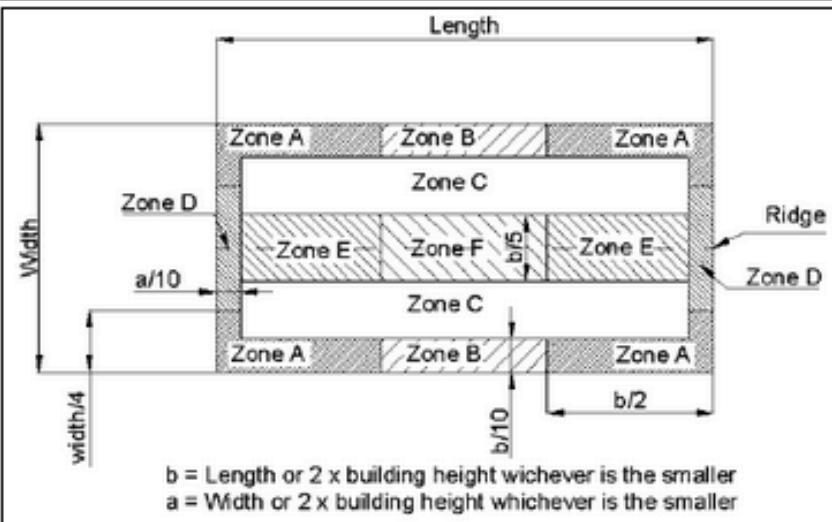
Building Height (m)	Wind Loads (kN/m^2)					
	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F
5	-1.65	-1.05	-0.60	-0.98	-0.83	-0.60
10	-2.06	-1.31	-0.75	-1.22	-1.03	-0.75
15	-2.30	-1.46	-0.84	-1.36	-1.15	-0.84
20	-2.46	-1.57	-0.90	-1.46	-1.23	-0.90

Pitch 15°

Building Height (m)	Wind Loads (kN/m^2)					
	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F
5	-1.35	-0.75	-0.60	-1.28	-1.13	-0.83
10	-1.69	-0.94	-0.75	-1.60	-1.41	-1.03
15	-1.88	-1.05	-0.84	-1.78	-1.57	-1.15
20	-2.02	-1.12	-0.90	-1.90	-1.68	-1.23

Pitch 30°

Building Height (m)	Wind Loads (kN/m^2)					
	Zone A	Zone B	Zone C	Zone D	Zone E	Zone F
5	-1.05	-0.60	-0.60	-0.98	-0.83	-0.60
10	-1.31	-0.75	-0.75	-1.22	-1.03	-0.75
15	-1.46	-0.84	-0.84	-1.36	-1.15	-0.84
20	-1.57	-0.90	-0.90	-1.46	-1.23	-0.90



Emerging engineering...

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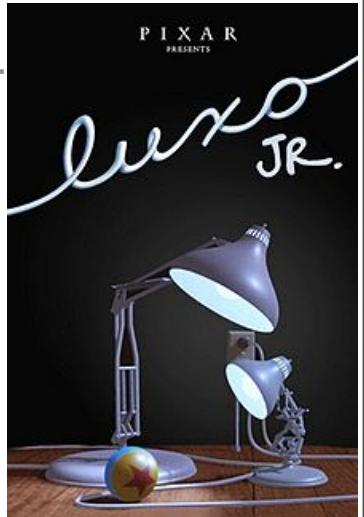
- Additive manufacturing
 - or 3D printing



Down on the render farm

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Luxo Jr. 1986...

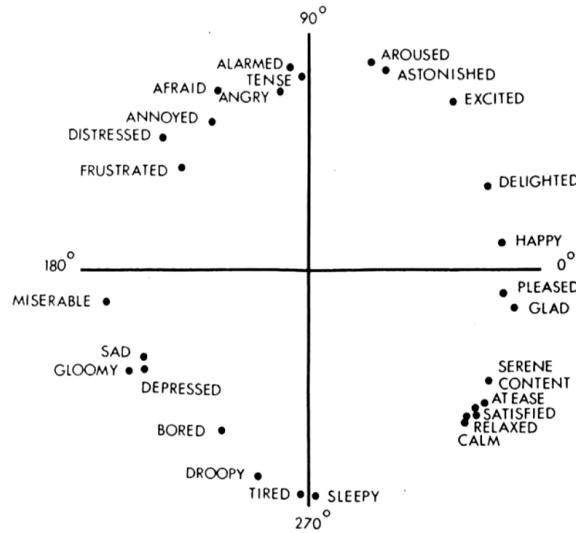


Mass feature extraction from catalogues



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Pickin' up good vibrations



High Performance Computing

What next?

ARTMAPS

Derek McAuley

Search for Artworks

Find a place

Location Discussion

Suggest a location Show all

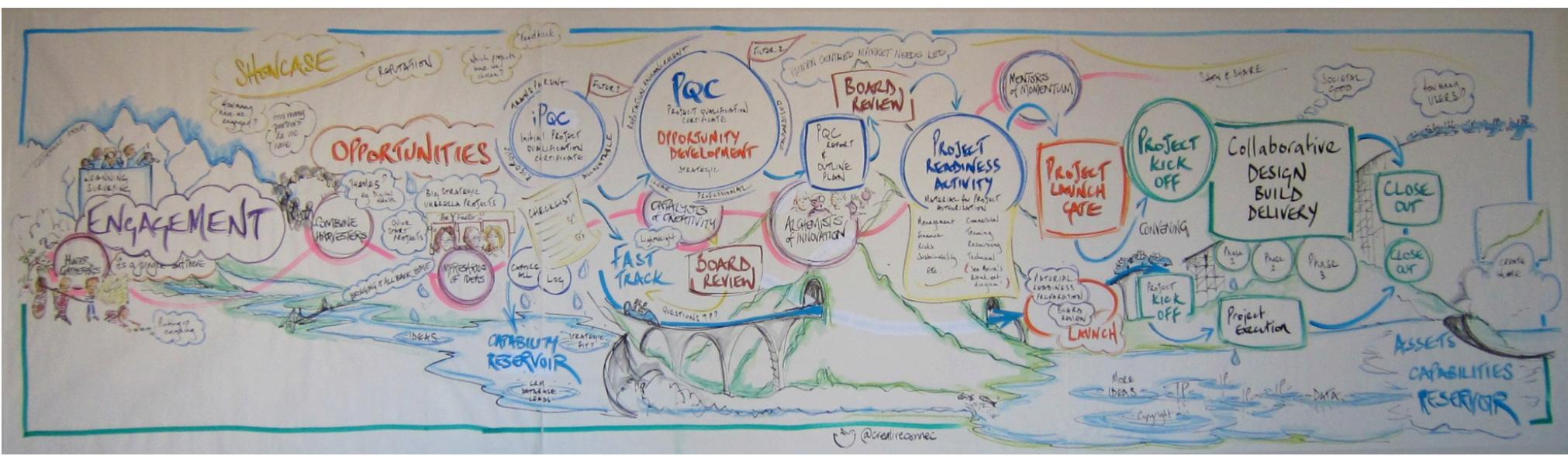
Enter a location

Christchurch Greyfriars Garden, St Paul's, St. Paul's Churchyard, Bank of England, Tower 42, Temple, Inner Temple Gardens, Middle Temple Gardens, Blackfriars, Blackfriars Bridge, LSE Bankside House, Harlequin Bldg, Red Cross Garden, Mint Street Park, Borough, Waterloo, Nelson Square, One Valentine Place, Newington, The Walrus Bar & Hostel.

Swinging

ARTIST Wassily Kandinsky (1866-1944)
DATE 1925

[View on Tate Online](#)



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