

Behov for fremtidig teknologikompetanse: bedriftsperspektiv

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Krisskolen, 15 May 2013

A few words about me

IT studies: BSc and MSc in Informatics, University of Oslo

Academic research: PhD in Maths, Oxford University, Fellow Magdalen College

Teaching: Prof in Saudi Arabia, Advisor in China

Software Development: DEC SRC in Silicon Valley, Alta Vista

Business studies: MBA at INSEAD

Management: Fast Search 6 Transfer, Microsoft

Business Development: Boards and investments GeoKnowledge, Camo, Sonitor

Board Work: Statkraft, Norsk Tipping, Aschehoug, Making Waves, Norman, Telenor

Research: NFR, Sintef, Teknologirådet



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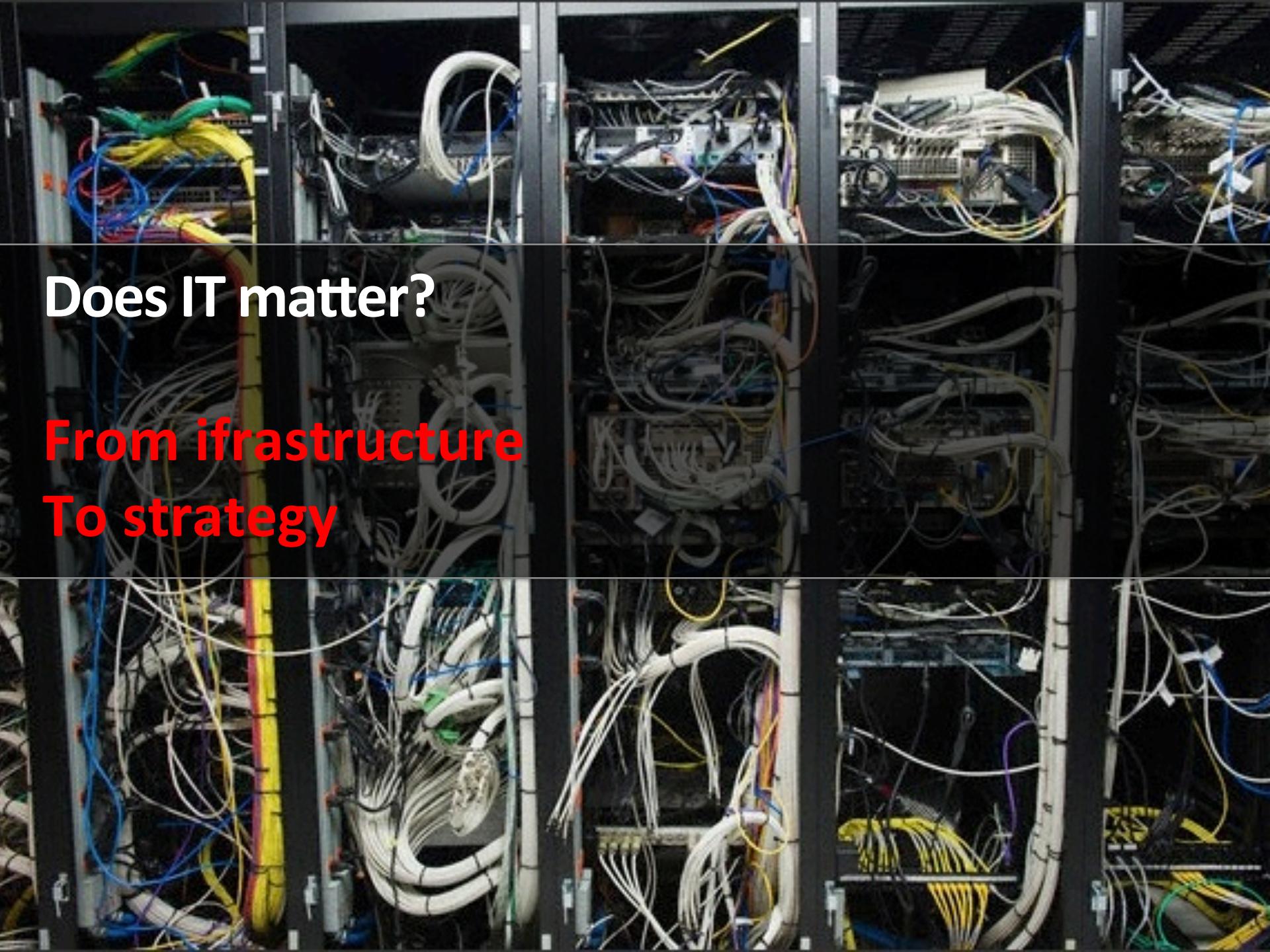
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www.technorocks.com



Agenda

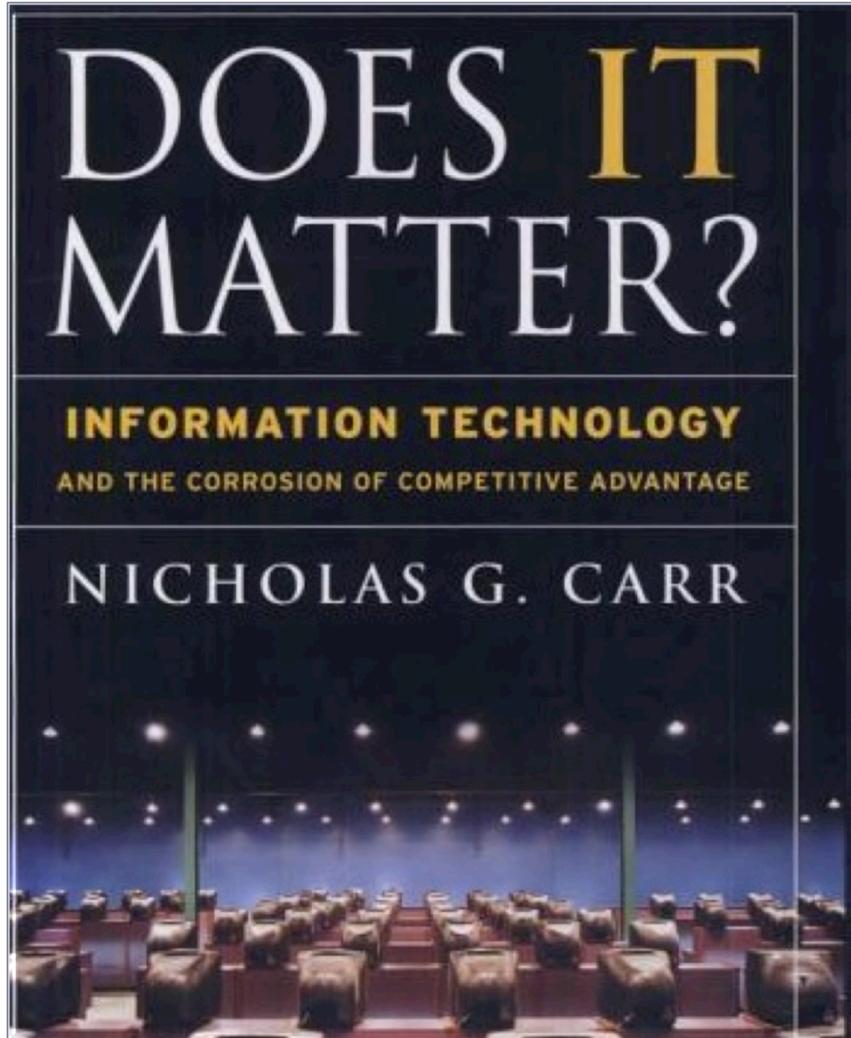
- 1. Does IT matter?**
- 2. Do we have what it takes?**
- 3. So what?**



Does IT matter?

From infrastructure
To strategy

Does IT matter? #1



Commoditization of IT?

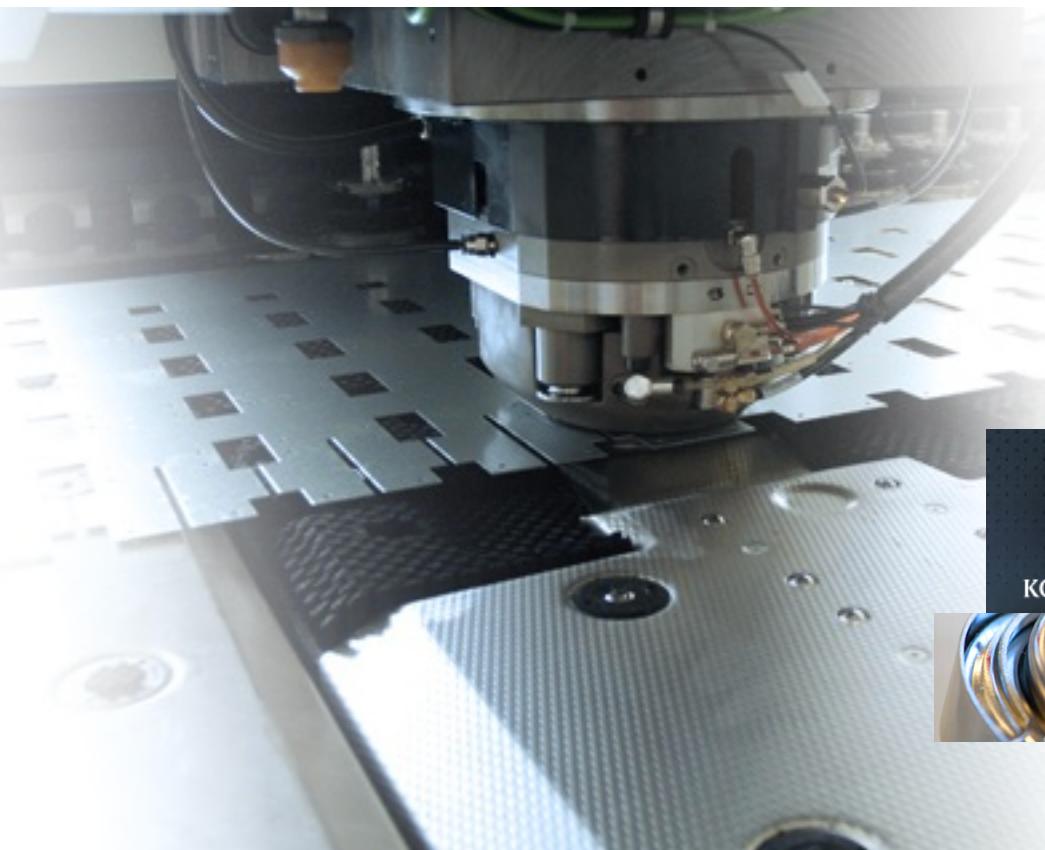
Competitive
advantage?

Simply put, it remains difficult, if not impossible, to draw any broad conclusions about IT's effect on the competitiveness and profitability of individual businesses. Information technology has become the largest of all corporate capital expenditures—and an intrinsic element of nearly every modern business process—but companies continue to make IT investments in the dark, without a clear conceptual understanding of the ultimate strategic or financial impact. The goal of this book is to help promote such an understanding, to provide business and technology managers, as well as investors and policy makers, with a new perspective on how technology, competition, and profits intersect.

My examples #1: Norman



One step ahead of
cyber-crime by
utilizing the
smartest brains



My examples #2: Norsk Tipping



Ansvarlighet vs
attraktivitet

Lotto og Tipping rett på mobilen



Norsk Tipping utsatt for dataangrep

Nettkunder over hele landet slet lørdag med å komme seg inn på Norsk Tippings
spillside.

My examples #3: Statkraft



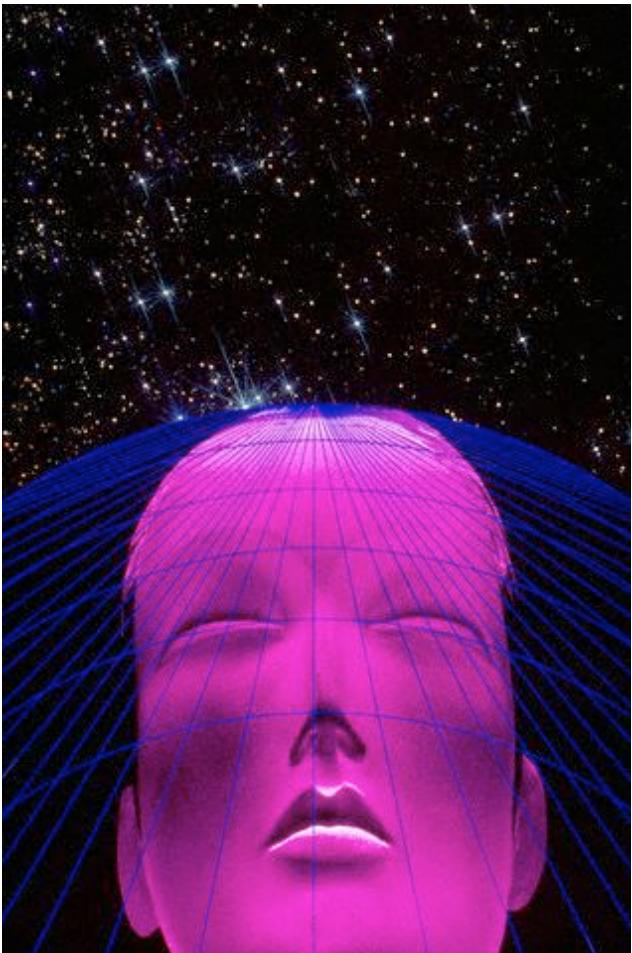
Statkraft is one of the main traders
within the European power market.
It also operates on the financial market.



A European leader in renewable energy.

[Find out more about our energy sources →](#)

My examples #4: Enoro



Link your Smart Grid data to device assets, location, customers, contracts, energy retailers, grid areas and much more.



My examples #5: Sonitor



New, High Definition RTLS Platform combines Sonitor's renowned High Definition Ultrasound™ technology with Wi-Fi, Low Frequency RF, as well as sensory technologies making combined system revolutionary.



Equipment Tracking

Improved work flow, patient flow and a lot of time saved are some of the benefits obtained if hospital staff always knew where their movable equipment was placed.

Patient tracking

USID used to automatically track patients effectively helps hospital staff treat more patients, and improves patient safety and satisfaction.

Nurse call support

Improving hospital workflow by automating nurse call events like automated cancellation of nurse call signal.



My examples #6: Making Waves



E-handel,
intranett,
portaler,
digital kommunikasjon,
mobil,
...

A large advertisement for 'løsninger' (solutions). On the left, a large white text on a dark background reads 'The best way to predict the future is to create it' attributed to Alan Kay. On the right, a dark circular overlay contains the word 'løsninger' in large white letters, followed by the text 'Portaler. E-handel. Intranett og samhandling. Mobil. Digital markedskommunikasjon.' in pink. Below this, in white text, is the sentence 'Vi kombinerer designenkning og avansert teknologi for å skape brukervennlige løsninger som begeistrer.' A person is visible working at a desk in the background.

My examples #7: TFSO

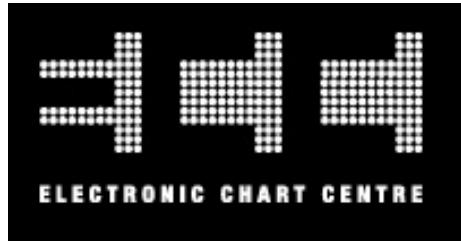


CRM-system • Økonomisystem • Prosjektstyring
www.24SevenOffice.com

100% webbaserte forretningssystem: ERP-system med CRM, Økonomisystem, Prosjektstyring og Kommunikasjon. Integrert med en rekke løsninger; som bank, inkasso, kreditt- og leverandørversikt, Altinn og telefon.



My examples #8: ECC



Collection, quality management
and distribution of Electronic
Navigational Charts

We are committed to supporting Norway's position as a leading maritime nation by contributing to greater safety at sea, nationally and internationally.

*Our vision
is to
contribute
to greater
safety,
lower
costs,
increased
user-
friendline-
ss and
enhanced
efficiency
at sea.*



My examples #9: cXense



CXENSE

Targeted Display Advertising

The laptop screen shows the adressa.no website's 'Kultur' (Culture) section. The top navigation bar includes links for NYHETER, SPORT, MUSIKK, BØRSENDE, MEHMING, TV, NYHET, and ATEA. The main content area features several news thumbnails, including one about a new model for e-book lending and another about the start of the year. Below the thumbnails, there are two articles: 'Starten på det hele' and 'Trippel lykke for Jenshus'. The 'Starten på det hele' article discusses the game 'Gears of War: Judgement' and its perfect ending. The 'Trippel lykke for Jenshus' article is about a documentary on sushi.

Content Recommendations



My examples #10: Telenor



Our initiatives within Digital Services are focusing on four areas



DATAINNBRUDET HOS TELENO

- Bedre opplæring kunne trolig avverget angrepet mot Telenor-ledelsen



My examples #11: Teknologirådet



En skole for fremtiden

Teknologirådet

A red rectangular banner with white text. At the top left is the text "En skole for fremtiden". In the center is a red cube logo with white triangular patterns. To the right of the logo is the text "Teknologirådet".

Sammendrag

Norsk skole kan bli mer fremtidsrettet

Norsk skole har investert i infrastruktur, men utnytter ikke muligheten IKT gir til å nå viktige mål som tilpasset oppleving eller systematisk undervisningsvurdering. Dette er områder hvor IKT kan spille en viktig rolle, men hvor digitale verktøy brukes i liten grad i dag. Gode IKT-løsninger kan også redusere lærernes administrative byrde, og dermed frigjøre tid til pedagogisk arbeid.

Smarte digitale læreremidler styrker kommunikasjonen mellom lærer og elev

Den norske skolen trenger digitale læreremidler som utnytter mulighetene som ligger i IT. "Smarte" læreremidler kan analysere elevens resultater og fremgangsmåte og tilby oppgaver tilpasset elevens mestringsnivå. Læreren får oversikt over resultater og arbeidsmåte, og kan gi høyopptegnede og relevante tilbakemeldinger.

Felles IKT-strategi øker skolens reelle valgmuligheter

IT-systemene i grunnskolen er preget av manglende samhandling. Mange kommuner kompetanse på spesifisering og innkjøp av skole-IT, og overlatter dette til den enkelte derfor behov for en felles IKT-strategi med krav til standarder og grensesnitt for læreriadministrative systemer, portalar mm. Det er også behov for en felles oversikt over gitareremidler.

Bruk av internett på eksamen gir bedre undervisning

Form og innhold på eksamen er avgjørende for hva som undervises og hvordan. Digi tilgang til internett vil derfor stimulere bruk av internett og digitale læreremidler i undervisningen.

Fra rådet til tinget nr. 32 , ma

Det omvendte klasserommet

[07.02.2013]

Teknologisatsingen i skolen har ikke klart det aller viktigste: Å fremme tilpasset læring for hver enkelt elev. Men 2013 kan bli året da vi knekte koden.

My examples #12: Sintef



Data services with in-built self-defence

Researchers are developing data systems which can adapt in the face of virus and hacker attacks. If software components are attacked they will be replaced automatically without any inconvenience to the user.

"Our objective is to devise more robust and operationally-secure IT services - whether you are booking concert tickets or submitting your tax returns"
Per Håkon Meland.



2. Norge må modernisere innholdet i og gi mer faglig substans til begrepet digital kompetanse i skolen, og opparbeide større forståelse for IKT-feltet.

Reell digital kompetanse må innarbeides i lærer-/lektorutdanningen og i undervisningen på alle trinn i skolen, og gå langt utover det å lære nettnett, å bruke programmer for tekstbehandling, søke på nett, osv. Dette er nødvendig for å sikre god rekrytering til IKT-faget og riktig IKT-kompetanse for hele befolkning uavhengig av deres valg av utdanning etter endt videregående skole.

Acoustics

Applied Cybernetics

Applied Mathematics

Communication Systems

Instrumentation

Microsystems and Nanotechnology

Networked Systems and Services

Optical measurement systems and data analysis

Software Engineering, Safety and Security

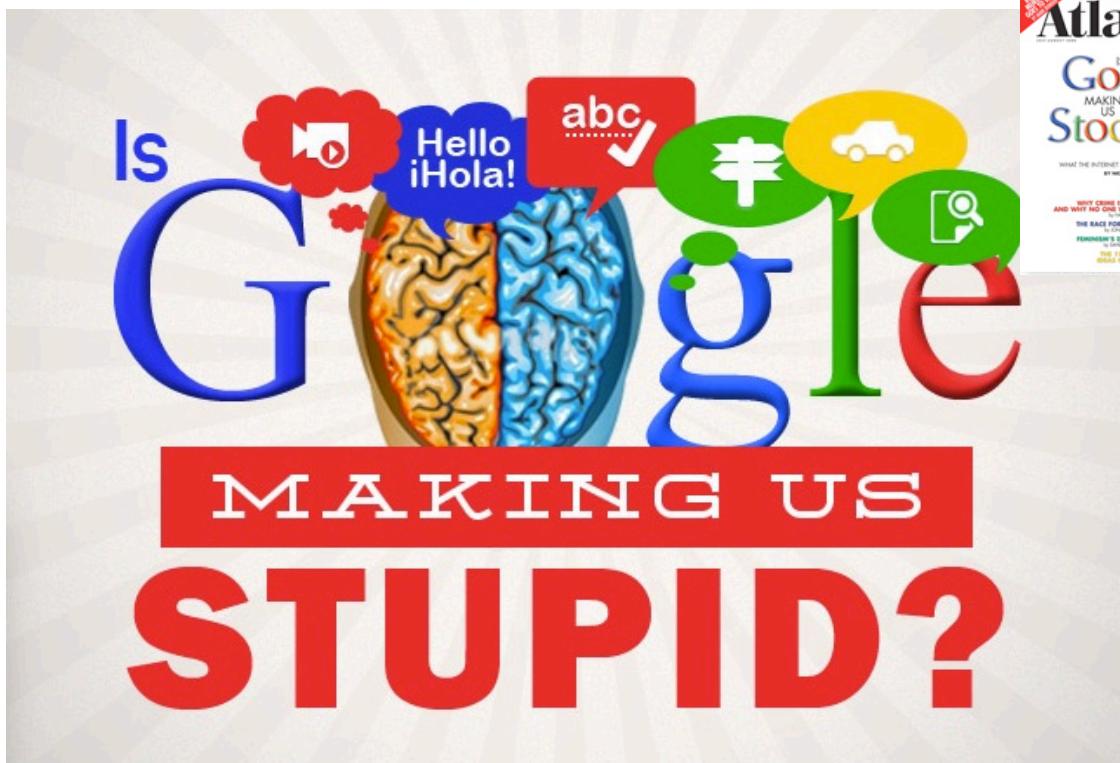


Do we have what it takes?

**Digital competency and education
VS digital natives**



Do we have what it takes? #2



2008

Deep reading

Bredde vs dybde

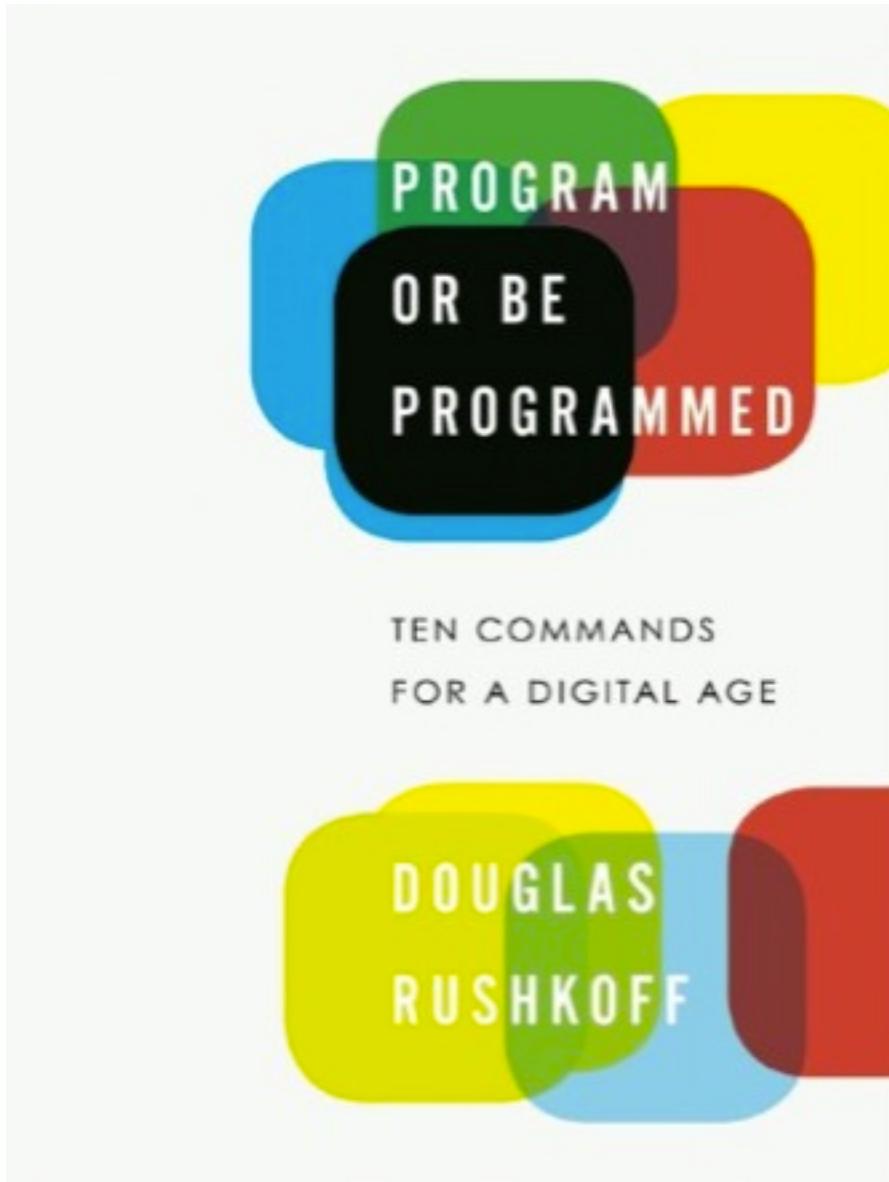
decoders of
information vs
creativity

Sven Birkerts 1994
Gutenberg Elegies:
Perseus Unbound

Maryanne Wolf *Proust
and the Squid* 2007

I can feel it, too. Over the past few years I've had an uncomfortable sense that someone, or something, has been tinkering with my brain, remapping the neural circuitry, reprogramming the memory. My mind isn't going—so far as I can tell—but it's changing. I'm not thinking the way I used to think. I can feel it most strongly when I'm reading. Immersing myself in a book or a lengthy article used to be easy. My mind would get caught up in the narrative or the turns of the argument, and I'd spend hours strolling through long stretches of prose. That's rarely the case anymore. Now my concentration often starts to drift after two or three pages. I get fidgety, lose the thread, begin looking for something else to do. I feel as if I'm always dragging my wayward brain back to the text. The deep reading that used to come naturally has become a struggle.

Do we have what it takes? #3



Douglas Rushkoff:
The Merchants of Cool,
The Persuaders and
Digital Nation.
Programme or be programmed.

10 biases of digital media/commands

1. **Time.** Thou shall not be always on.
2. **Distance.** Thou shalt not do from a distance what can be done in person.
3. **Scale.** Exalt the particular.
4. **Discrete.** You may always choose none of the above.
5. **Complexity.** Thou shalt never be completely right.
6. **Non-corporeal.** Thou shalt not be anonymous.
7. **Contact is king (not content).** Remember the humans.
8. **Abstraction.** Print abstracts text from the scribe.
9. **Openness.** Thou shalt not steal.
10. **End users.** Technology is biased toward consumers. User = used.



**According to former
Secretary of Education
Richard Riley...**

**...the top 10 in-demand jobs in 2010
did not exist in 2004**



We are currently
preparing students
for jobs that
don't yet exist...

using technologies
that haven't
been invented...



**in order to
solve problems
we don't even know
are problems yet.**



So what?



Idea #1: Focus



Be very good at
very few things

Idea #2: Corporate handshake

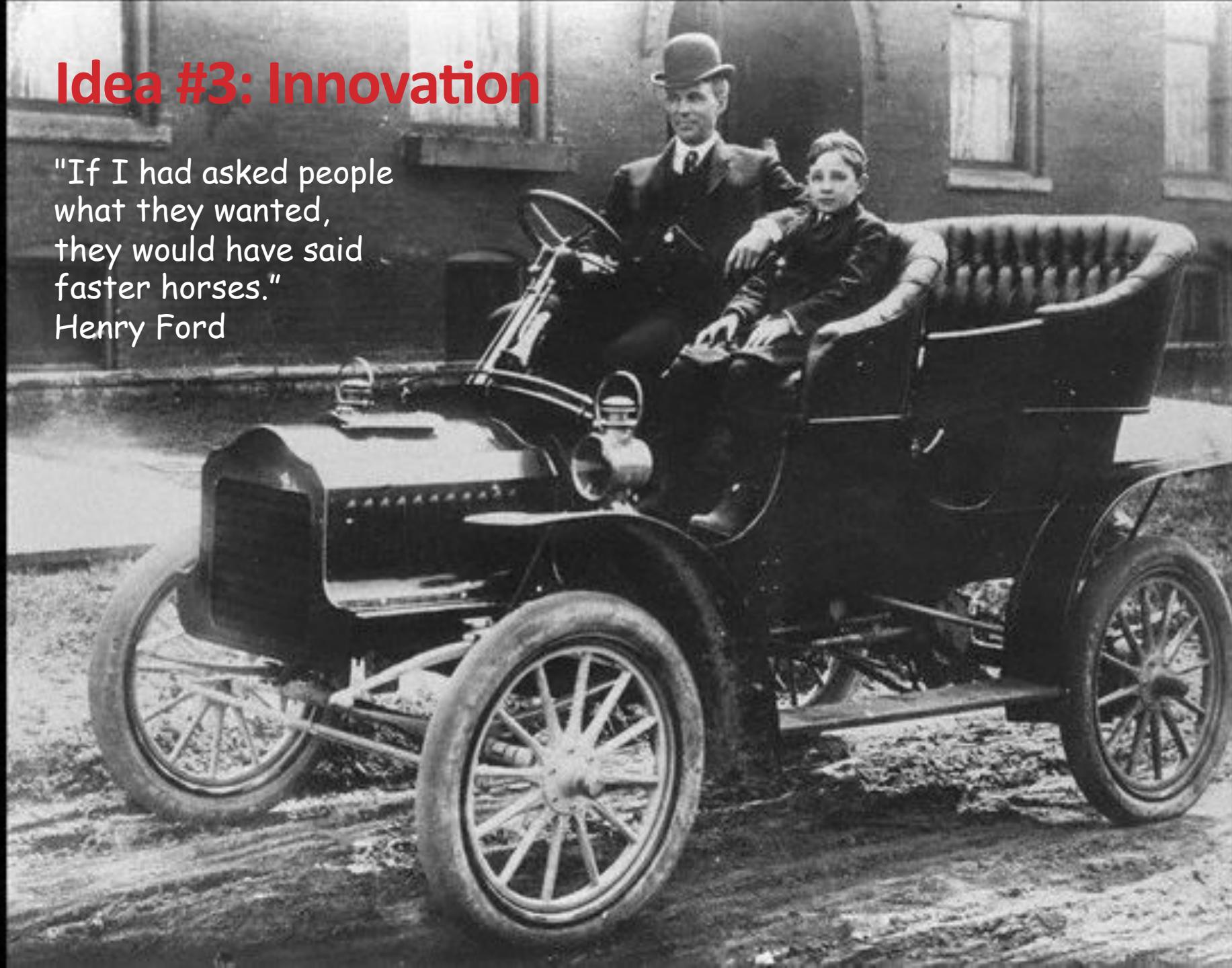
A photograph showing two people in business attire (dark suits) shaking hands. They are positioned above a lush, green grassy field. The background is a plain, light color.

Source problems
where they need to
be solved.

Idea #3: Innovation

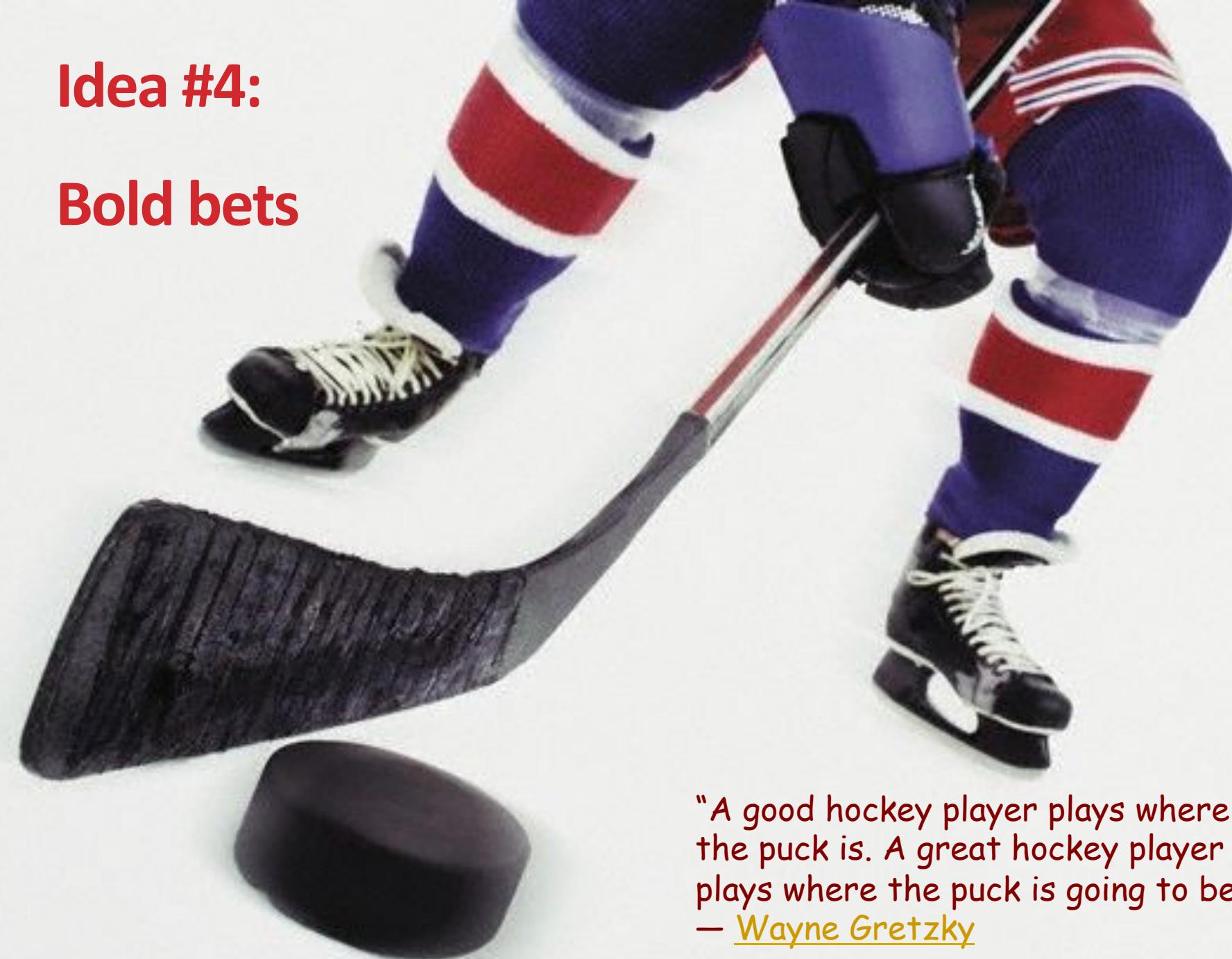
"If I had asked people what they wanted, they would have said faster horses."

Henry Ford



Idea #4:

Bold bets



"A good hockey player plays where the puck is. A great hockey player plays where the puck is going to be."
— Wayne Gretzky

Idea #5: Superheroes



You need only a few - they have
their own gravitational force.

Idea #6: Hedgehog and fox

'The fox knows many things,
but the hedgehog knows one big thing'
Greek poet Archilochus



Long-term
perspectives



Meld.St.18 (2012-2013) Report to the Storting (White Paper) Summary

Long-term perspectives –
knowledge provides
opportunity



Idea #7: Combinatorial creativity



All creativity is
combinatorial

Idea #8: Build and use networks

Get to know the best, and put them to a test:
Professional
Commercial
International networks

Idea #9: Inter-disciplinary collaboration



Blue ocean
strategy

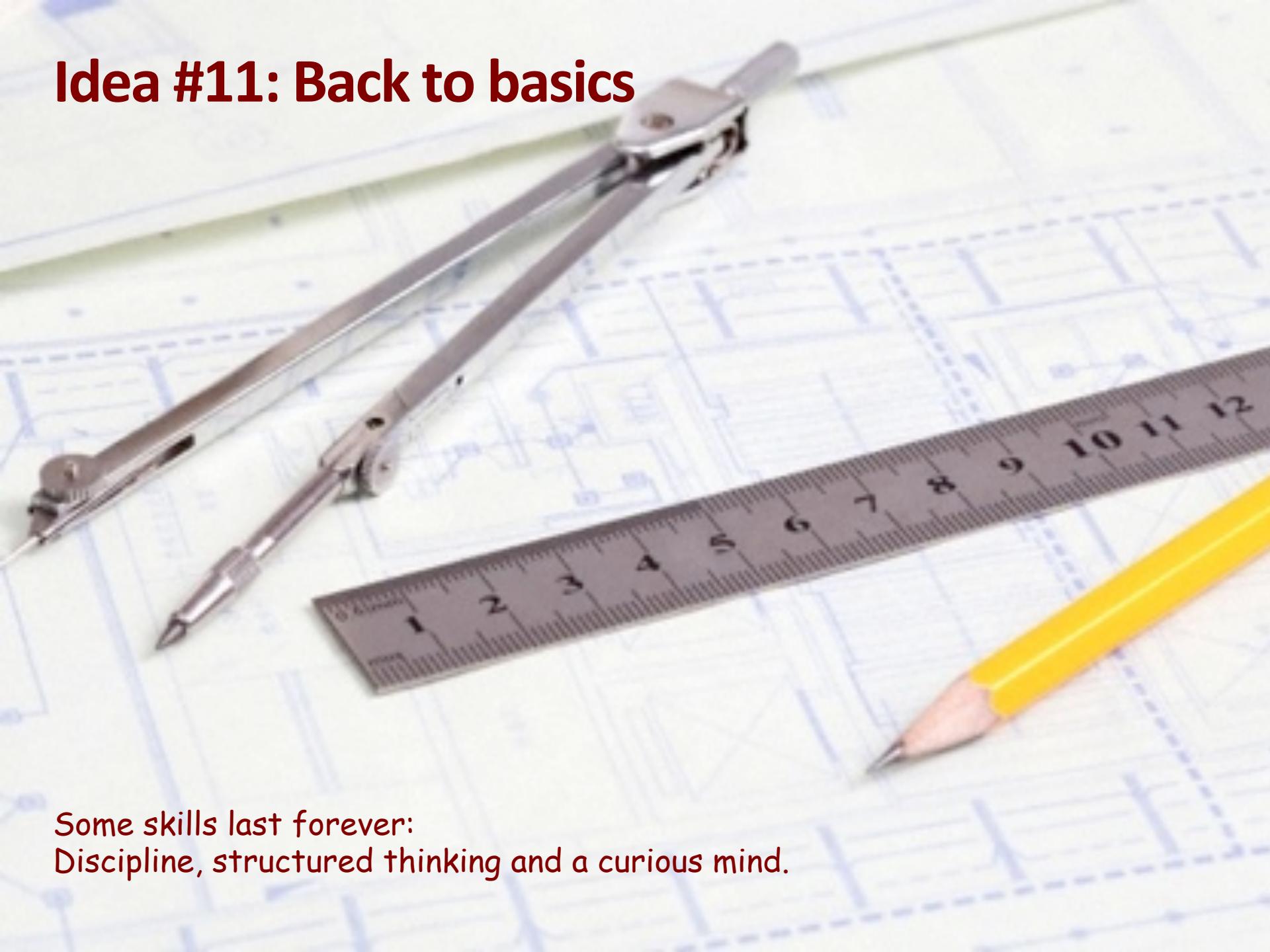
New top
performers
in new
hybrid
areas: e.g.
finance-IT,
health-IT,
bio-IT, etc.

Idea #10: Make it cool



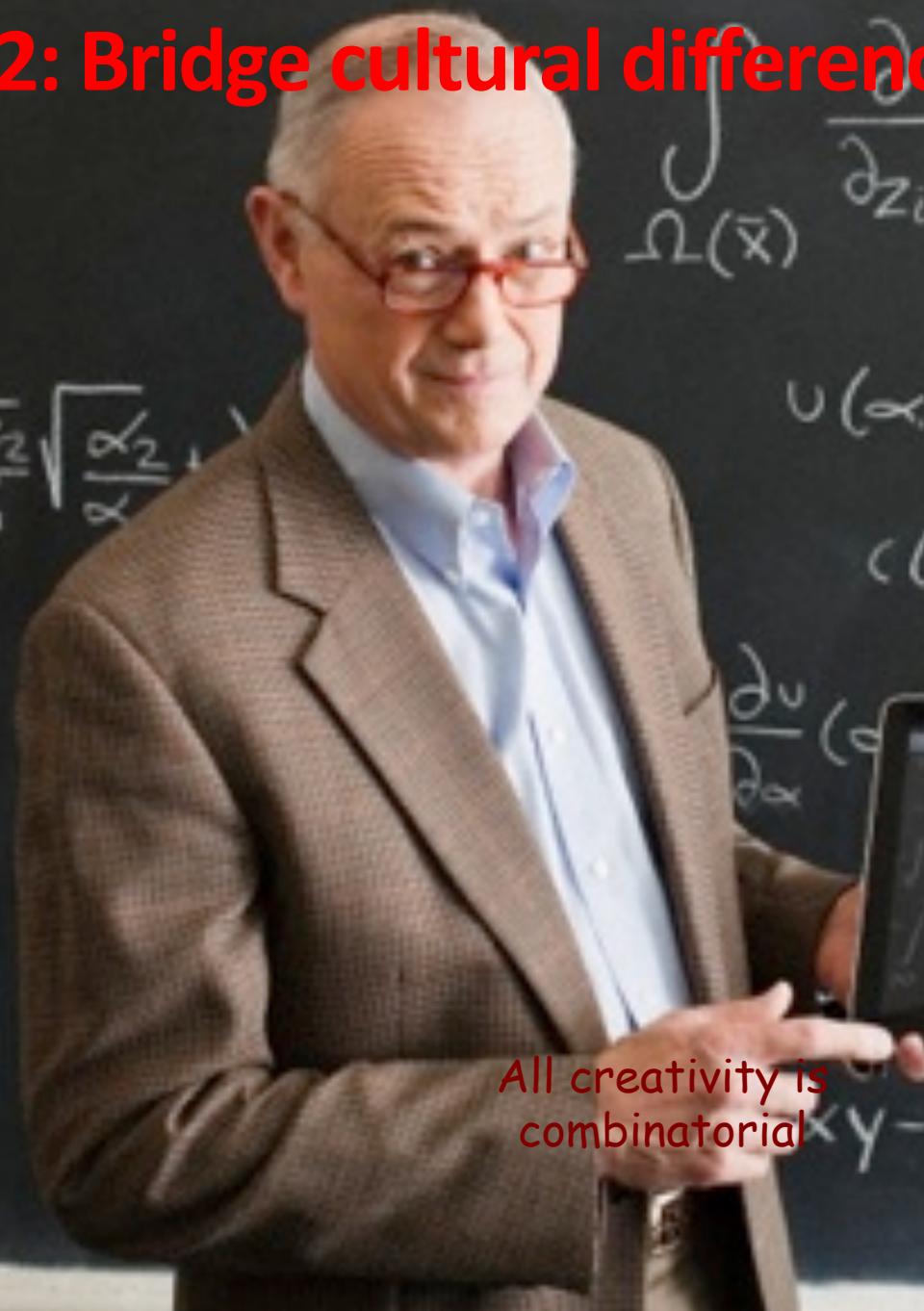
It is a duty
and
a privilege

Idea #11: Back to basics



Some skills last forever:
Discipline, structured thinking and a curious mind.

Idea #12: Bridge cultural differences



All creativity is
combinatorial

Thank you!

For more technology:

www.facebook.com/TechnoRocks