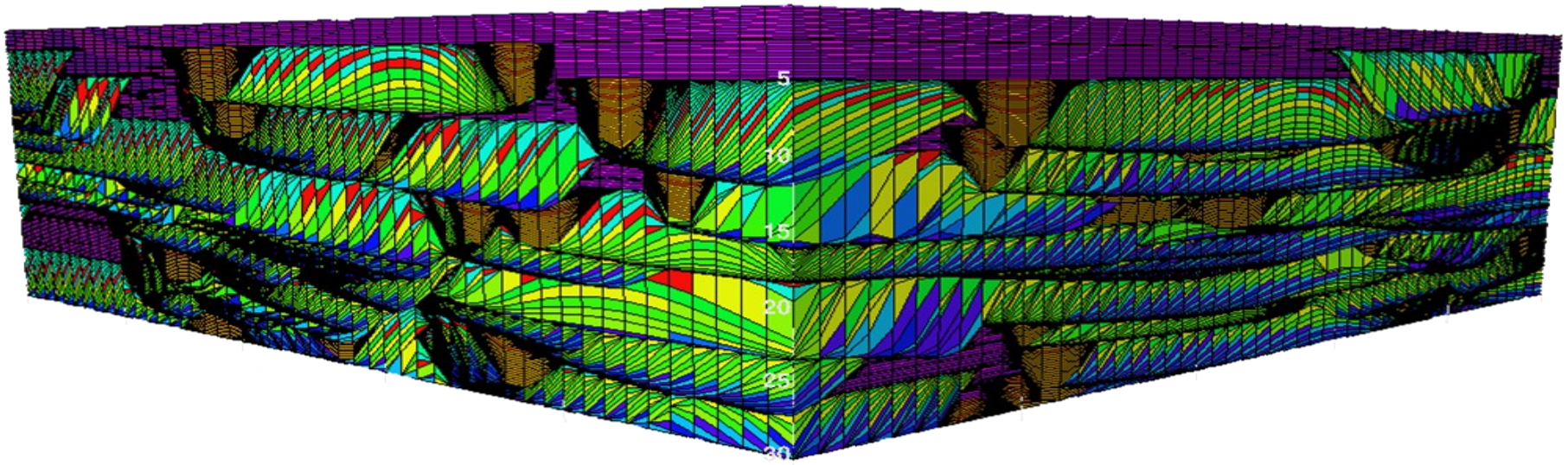
OPM - Development of reservoir simulation software

Alf Birger Rustad

May 2013

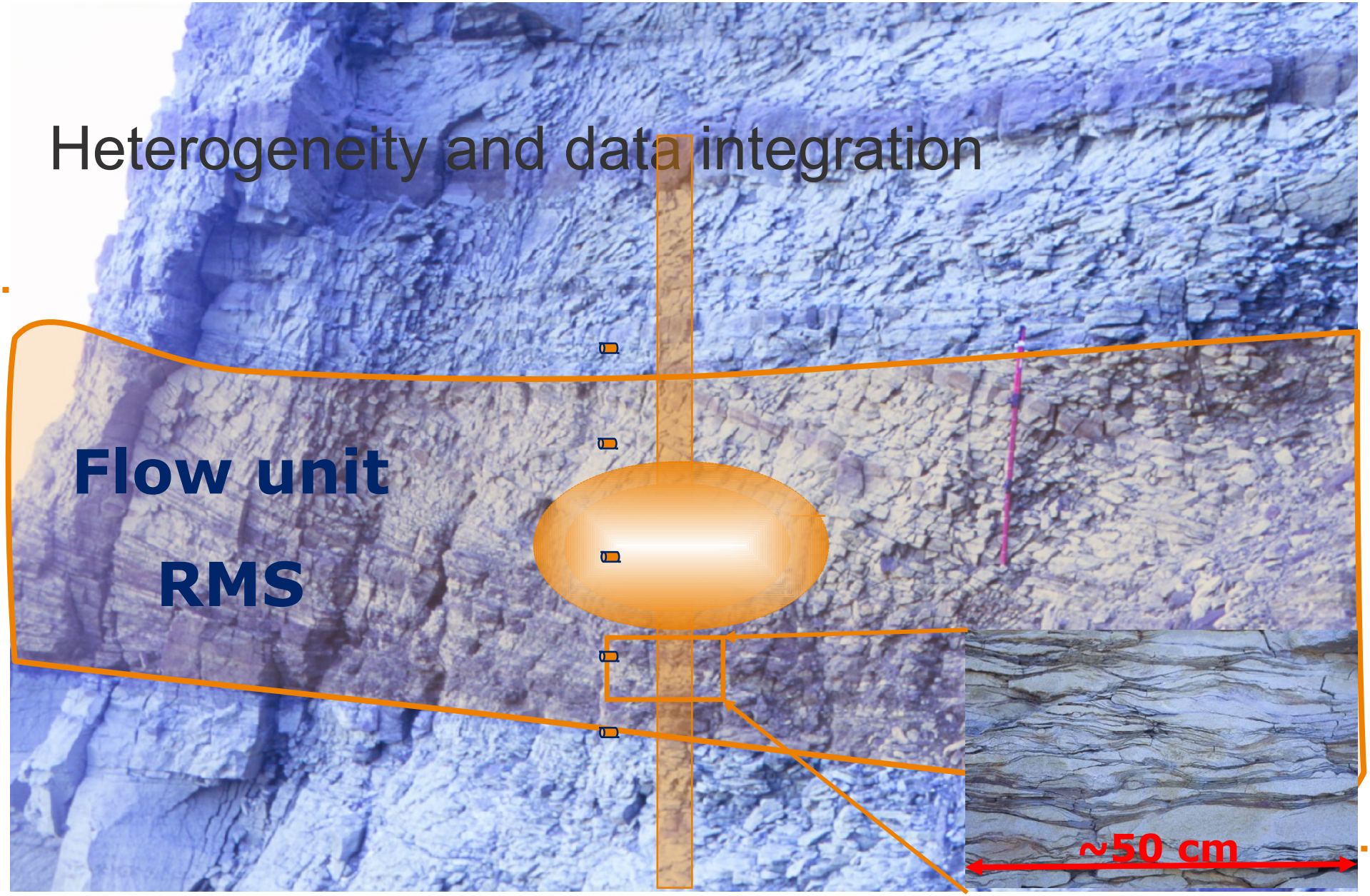
Objective: Predict reservoir performance



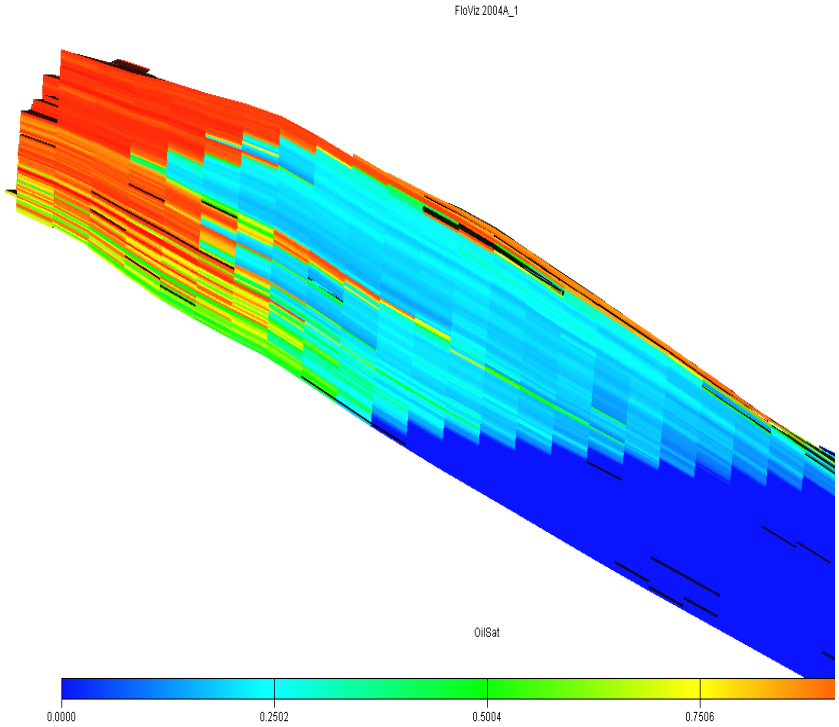
Statoil

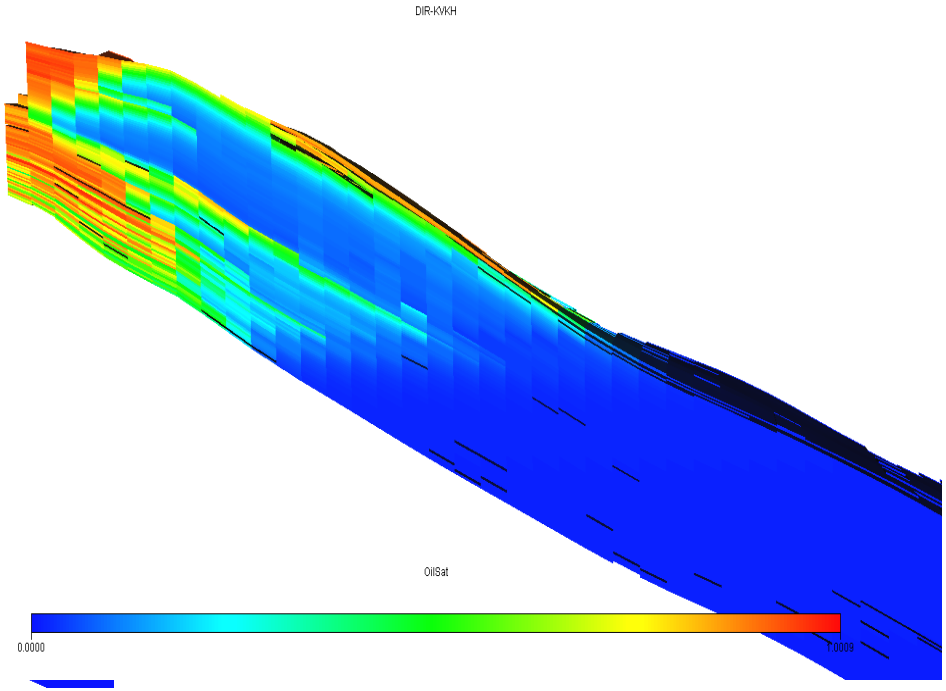
Technical gaps today

Heterogeneity and data integration



Impact on reservoir flow





Statoil

The players

Customers

Statoil

TOTAL

bhpbilliton

Providers

Schlumberger

CMG COMPUTER MODELLING GROUP LTD.

Research communities

SINTEF

IRIS

UNIVERSITÄT HEIDELBERG

Universität Stuttgart

Universitetet i Bergen

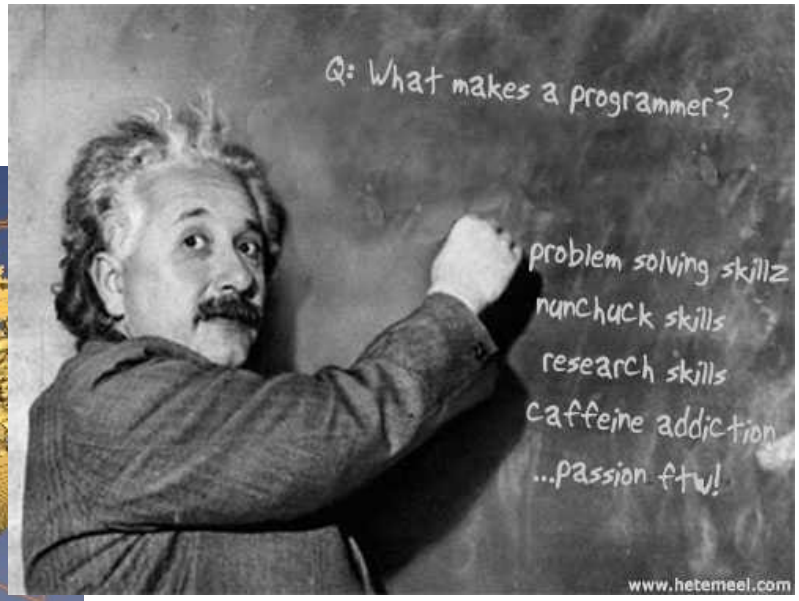
uni Research

WHAT STARTS HERE CHANGES THE WORLD
THE UNIVERSITY OF TEXAS AT AUSTIN

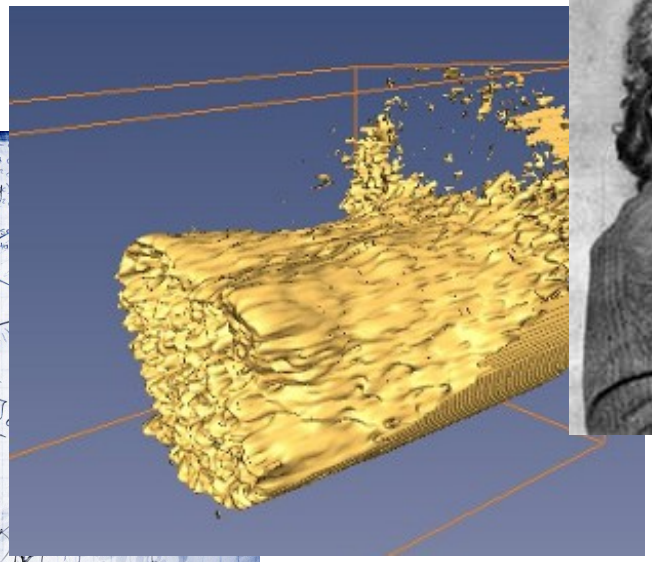
STANFORD UNIVERSITY

Research communities role

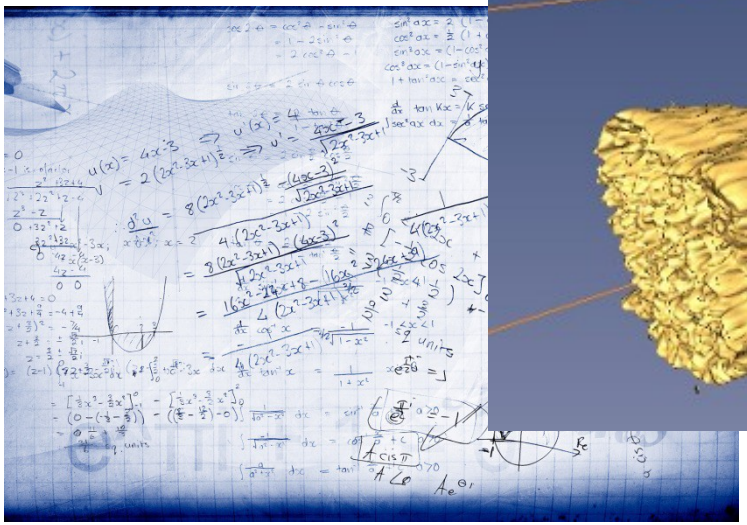
Implementation



Flow physics



Numerics



Provider's role

Customer support

User friendly

Integrating software

Statoil

Our role as customer

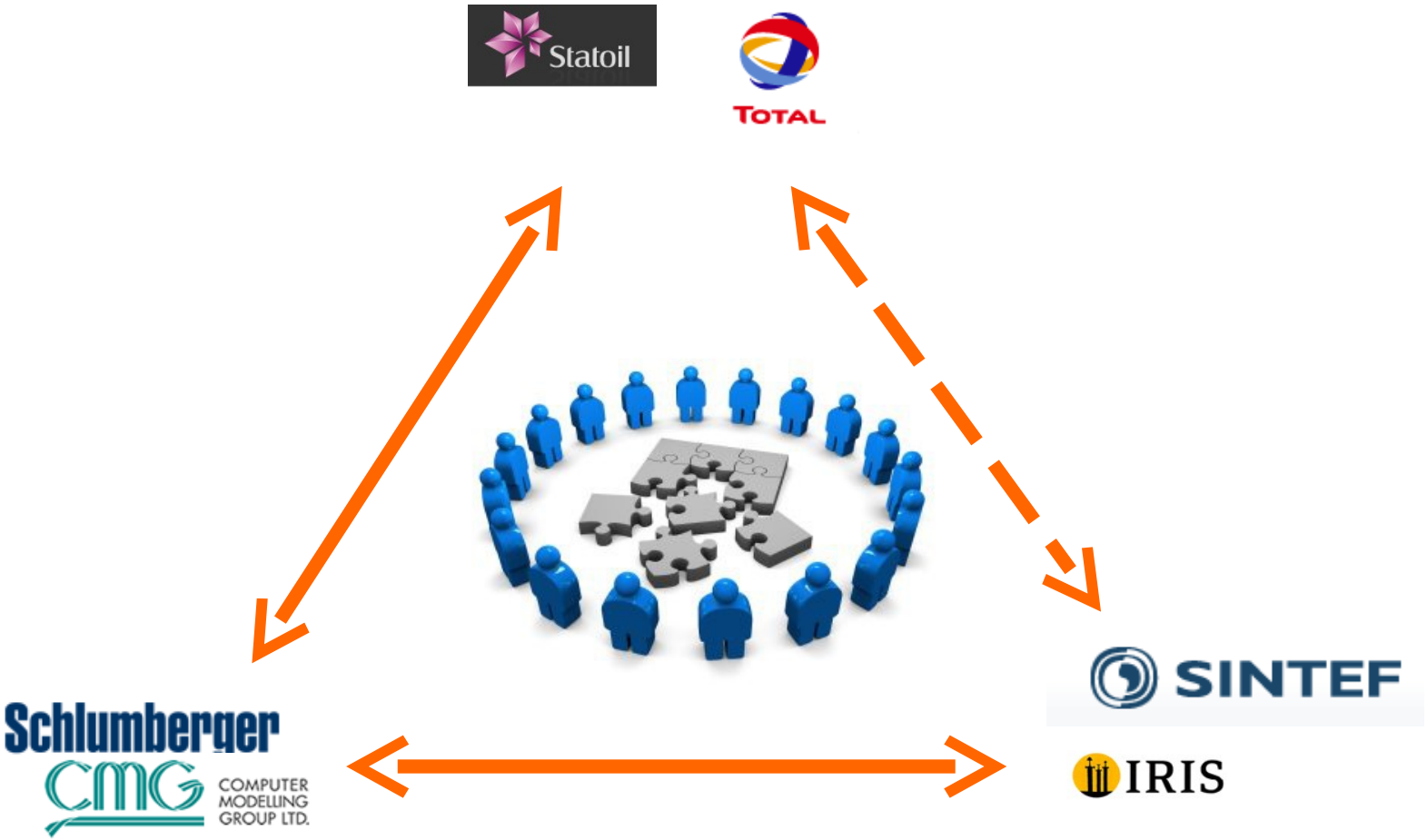
Customer needs

Provide realistic problems

Funding

Main challenge: Collaboration

Open development model necessary



Strategy summary

- Clearification of the *different roles* of different players.
- Ensure multilateral collaboration and contact between all categories of players
- Open development model necessary for collaboration with all players

What’s in it for Statoil

- No ”black-box” software. Anyone can do quality assurance of all code.
- No vendor monopoly on maintenance and further development
- It encourages other parties (academia in particular) to contribute independently to our involvement
- Possibility to build on existing (rapidly increasing) code bases
- Vendors typically attempt to strengthen their code quality, as badly written code now will be exposed for others to see.

What about the software vendor?

- From previous slide:

”value is transferred from shareholders to programmers (human capital)”

- Software vendors typically have to change their business model from a license-based income to support-and-maintenance-based income.
- Large vendors with existing valuable proprietary software unlikely to be willing to switch
- Small and upcoming vendors for R&D projects seems to have little or no chance today on a license based business

Thank you