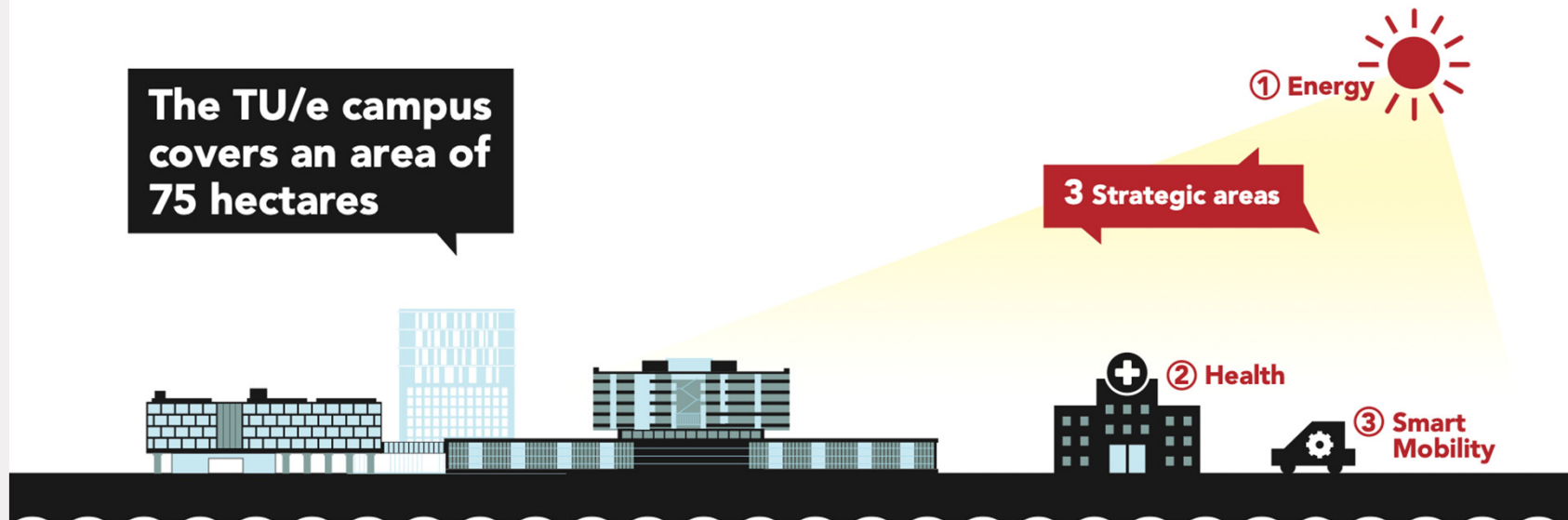


Transitioning from Current to Collaborative Research Information Systems

Experiences from the data driven research website project

Nick Veenstra, research information specialist / Dutch Pure Usergroup chair

The TU/e campus covers an area of 75 hectares



Ecosystem and characteristics



Ultra-modern cleanroom



Living labs



11 Knowledge institutes



5 New start-ups and spin-offs



91 Patents



14 Large research labs



3,379 Scientific publications



50 Smaller research facilities



Rankings:



CWTS Leiden Ranking 2018:
TU/e no. 1 in industry cooperation



International working environment

3,221 Total staff (fte)

1,854 Research staff (fte)



66% Dutch

142 Full professors



34% International

130 Part time professors



63% Male

135 Associate professors



37% Female

293 Assistant professors

1,534 PhD fellows



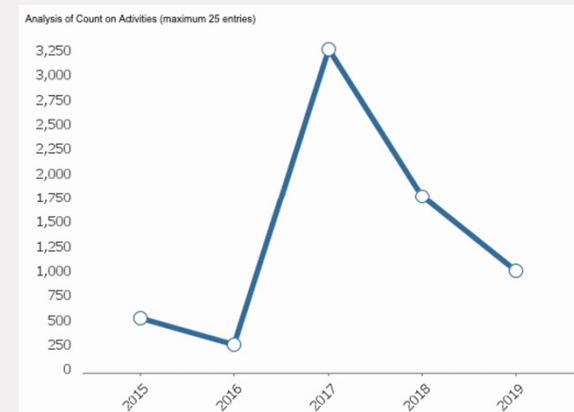
Times Higher Education (THE)
World University Ranking 2018:
TU/e no. 167 out of >1000



QS-Ranking 2018:
TU/e no. 99
out of 900

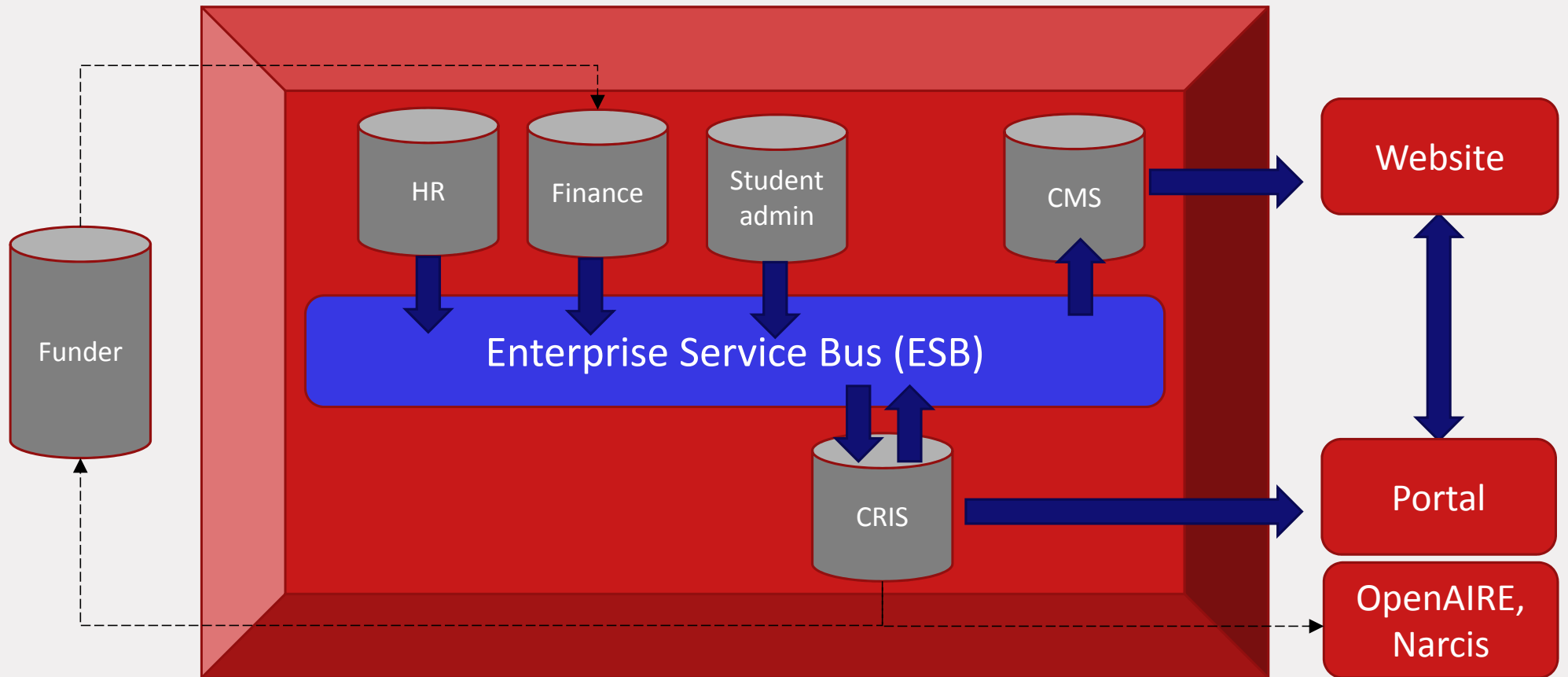
From standalone CRIS to research information chain

- Implemented Pure as CRIS system in November 2015 (after using Metis for 30 years)
- Decentralized data entry/downloading by researchers + secretary staff, central validation
- Wide range of content:
 - 145.000 publications
 - 7000 activities*
 - 1200 prizes
 - 7300 awards, 8000 projects
 - 300 equipment (and labs)
 - 200 research areas/themes (impacts)
 - 1300 courses
- Traditionally publication based SOR, now fast growing activities and prize administration
- Website project 2017/2018 : CRIS system became the center of the research information chain, facilitating a data driven research website from multiple sources



*:lectures, keynotes, memberships, editorships, outreach, consultancy etc.

TU/e research information chain



Integrating research site and portal/repository

The image displays four screenshots illustrating the integration of a research site and a portal/repository.

Top Left Screenshot: Research Groups

- Navigation bar: HOME / RESEARCH / RESEARCH GROUPS
- Section: RESEARCH GROUPS
- Text: We are known internationally for our excellence and expertise in basic science & technology disciplines. We focus on developing methodologies, understanding complexity in all its shapes and sizes and enhancing knowledge through research in expert areas. We are committed to interdisciplinary research. By combining our strong disciplines, we explore new emerging scientific areas and enable promising innovations in the light of societal challenges. Open science is our standard.
- Search bar: Department [] Keyword [] SEARCH
- Image gallery: Three images showing research results.
- Text: DEPARTMENT OF APPLIED PHYSICS: Advanced Nanomaterials & Devices. It is fascinating how materials properties can be radically changed by the crystal structure or surface states...

Top Right Screenshot: Eindhoven University of Technology research portal

- Navigation bar: TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY
- Section: Eindhoven University of Technology research portal
- Search bar: All content Explore profiles, expertise and research at Eindhoven University
- Statistics: 8540 Researchers, 144566 Research Output, 422 Organisational units, 6635 Activities, 178 Projects, 40263 More

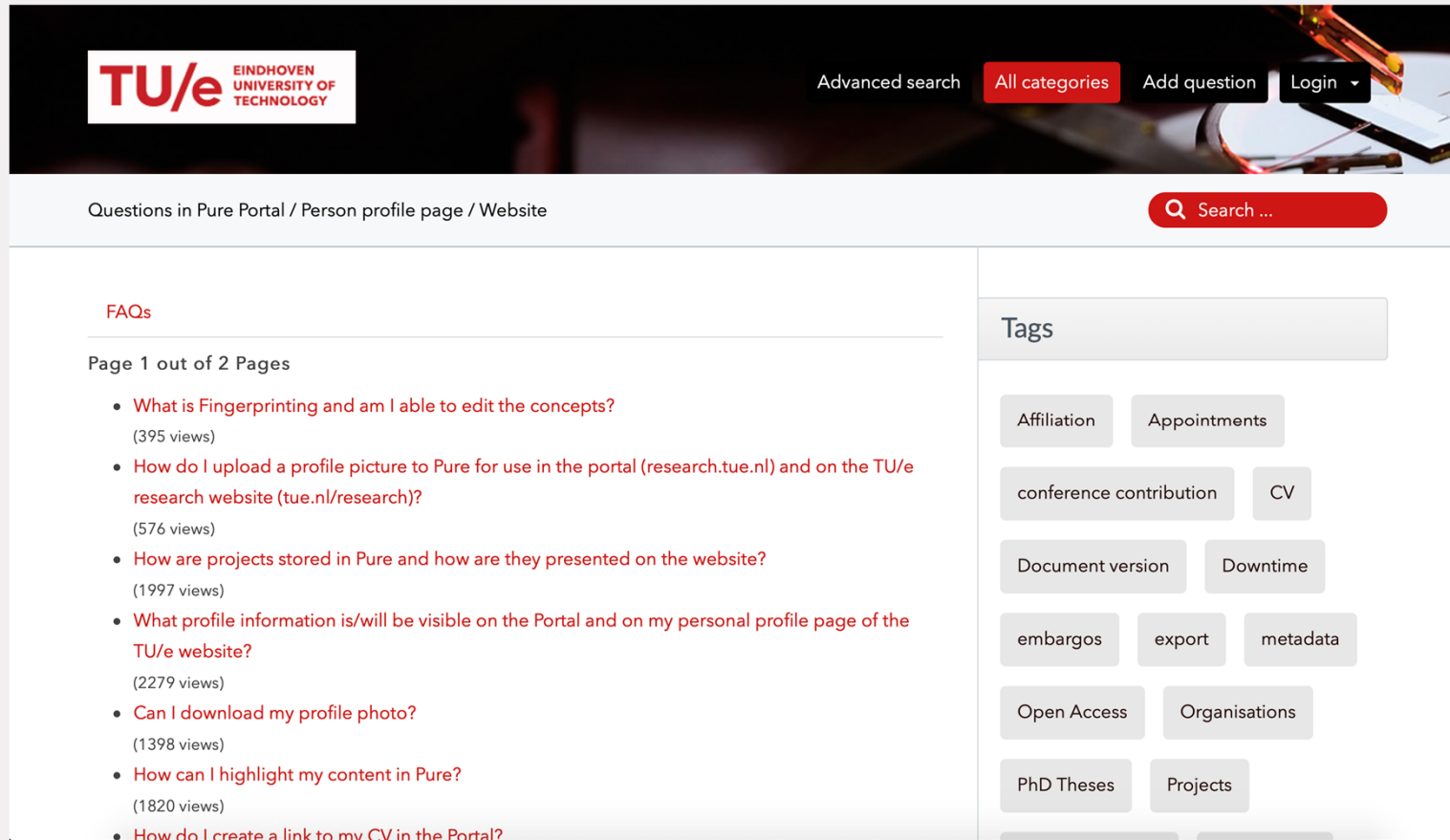
Bottom Left Screenshot: Academic Background and Key Publications

- Section: ACADEMIC BACKGROUND
- Text: Aarnout Brombacher holds a BSc and MSc in Electrical Engineering and a PhD in Engineering Science, all from Twente University of Technology. He was appointed Full Professor at Eindhoven University of Technology (TUE) in 1993. He has also worked as a senior consultant for the Reliability section of Philips CFT Development Support. Brombacher is a prolific author, having authored and co-authored over 100 journal papers. Together with Doug Montgomery, Brombacher is chief-editor of the journal Quality and Reliability Engineering International. Brombacher was Distinguished Professor of the Industrial Design department between 2010 and 2016 and, in addition, Vice-Rector of TUE International Relations between 2012 and 2016. Brombacher was Distinguished Visiting Professor and Adjunct Professor at the National University of Singapore between 1998 and 2006.
- Section: KEY PUBLICATIONS
- Text: + SEE ALL PUBLICATIONS
- Publication 1: Dealing with subjectivity in early product design phase: a systematic approach to exploit QFD potentials. R. RAHARJIZA, A.C. BROMBACHER, M. EIE. *Computer-Aided Engineering Design* (2019)
- Publication 2: Quality and reliability problems from a consumer's perspective: an increasing problem overlooked by businesses? Quality and Reliability Engineering International (2016) PH. OUDEN, DENY, LUJAJM, SONNEMANS, A.C. BROMBACHER
- Publication 3: A dynamic model for managing overlapped iterative product development. European Journal of Operational Research (2008) J. LUKKH, CHAIKS, WONG, A.C. BROMBACHER
- Publication 4: Prioritizing quality characteristics in dynamic quality function deployment. International Journal of Production Research (2008) R. RAHARJIZA, M. EIE, A.C. BROMBACHER
- Publication 5: Managing product reliability in business processes 'under pressure'. Reliability Engineering and System Safety (2016) A.C. BROMBACHER, P.C. SANDER, P.J.M. SONNEMANS, J.L. ROUYVOYE
- Section: CURRENT EDUCATIONAL ACTIVITIES
- Text: Final Master Project - Constructive Design Research (SC), Project at D - Constructive Design Research (SC), Preparation FMP - Constructive Design Research (SC)
- Section: ANCILLARY ACTIVITIES
- Text: hoofdredacteur wetenschappelijk tijdschrift, John Wiley & Sons

Bottom Right Screenshot: Research Output

- Navigation bar: Home Researchers Research Output Organisational units Activities Projects Prizes ...
- Section: Aarnout C. Brombacher
- Text: prof.dr.ir., Full Professor, Department of Industrial Design, Systemic Change
- Email: a.c.brombacher@tue.nl
- View Scopus Profile
- Statistics: 1238 Citations
- Research Output: 1238 Citations, 109 Conference contribution, 65 Article, 36 PhD Thesis 1 (Research TU/e / Graduation TU/e), 15 Chapter, 25 More
- Filters: 1 - 50 out of 250 results, Publication Year, Title (descending)
- Publication 1: Breast cancer survivors' experiences with an activity tracker integrated into a supervised exercise program: qualitative study. Wu, H. S., Gul, R., van Steenoven, N. C., Brombacher, A. C., Jusselstein, W. A., May, A. M. & Monnikhof, E. M., 1 Feb 2019, In: Journal of Medical Internet Research 7, 2, 11 p., e10820. Research output: Contribution to journal - Article - Academic - peer-review
- Publication 2: LightSit: an unobtrusive health-promoting system for relaxation and fitness microbreaks at work. Ren, X., Yu, B., Lu, Y., Zhang, B., Hu, J. & Brombacher, A., 9 May 2019, In: Sensors 19, 9, 18 p., 2162. Research output: Contribution to journal - Article - Academic - peer-review
- World Map: A world map showing research locations with red dots.

FAQ section on managing researcher website profile



The screenshot shows the TU/e Pure Portal interface. At the top, the TU/e logo is on the left, and navigation links for 'Advanced search', 'All categories', 'Add question', and 'Login' are on the right. Below the header, a breadcrumb trail reads 'Questions in Pure Portal / Person profile page / Website'. A search bar is located on the right side of the page. The main content area is titled 'FAQs' and shows 'Page 1 out of 2 Pages'. It contains a list of seven frequently asked questions, each with a red title and a view count. To the right of the FAQ list is a 'Tags' section with a grid of buttons for various categories like 'Affiliation', 'Appointments', 'conference contribution', 'CV', 'Document version', 'Downtime', 'embargos', 'export', 'metadata', 'Open Access', 'Organisations', 'PhD Theses', and 'Projects'.

TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY

Advanced search All categories Add question Login

Questions in Pure Portal / Person profile page / Website

Search ...

FAQs

Page 1 out of 2 Pages

- **What is Fingerprinting and am I able to edit the concepts?**
(395 views)
- **How do I upload a profile picture to Pure for use in the portal (research.tue.nl) and on the TU/e research website (tue.nl/research)?**
(576 views)
- **How are projects stored in Pure and how are they presented on the website?**
(1997 views)
- **What profile information is/will be visible on the Portal and on my personal profile page of the TU/e website?**
(2279 views)
- **Can I download my profile photo?**
(1398 views)
- **How can I highlight my content in Pure?**
(1820 views)
- **How do I create a link to my CV in the Portal?**

Tags

Affiliation Appointments

conference contribution CV

Document version Downtime

embargos export metadata

Open Access Organisations

PhD Theses Projects

Results/feedback

- Researchers (re)discover the CRIS (research information chain) as PR tool
- Research website data driven, not a CMS database with 300+ editors
- Increased researcher feedback:
 - Adjusting to more generic pages proves difficult
 - More direct control over content (through CRIS, not emailing the editor)
 - Optimize workflow (funder feedback loop)
- Internal suppliers (HR, Finance) adjusting to a role as chain data supplier (organization structure, projects)
- Chain struggles with increasing number of external collaboration showcasing requests

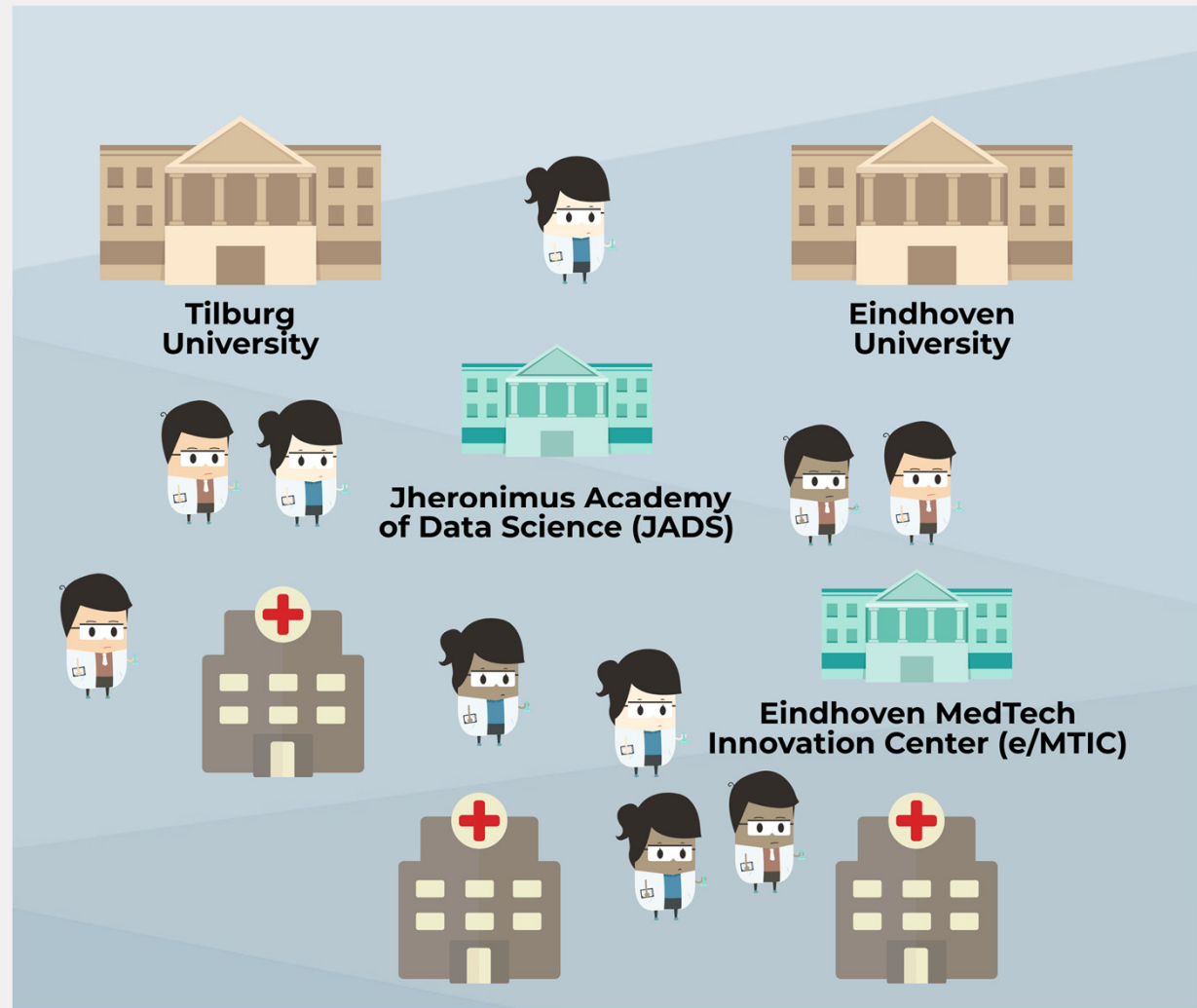
Example cases

JADS

Data Science Center, joint venture of TU/e and TiU

e/MTIC

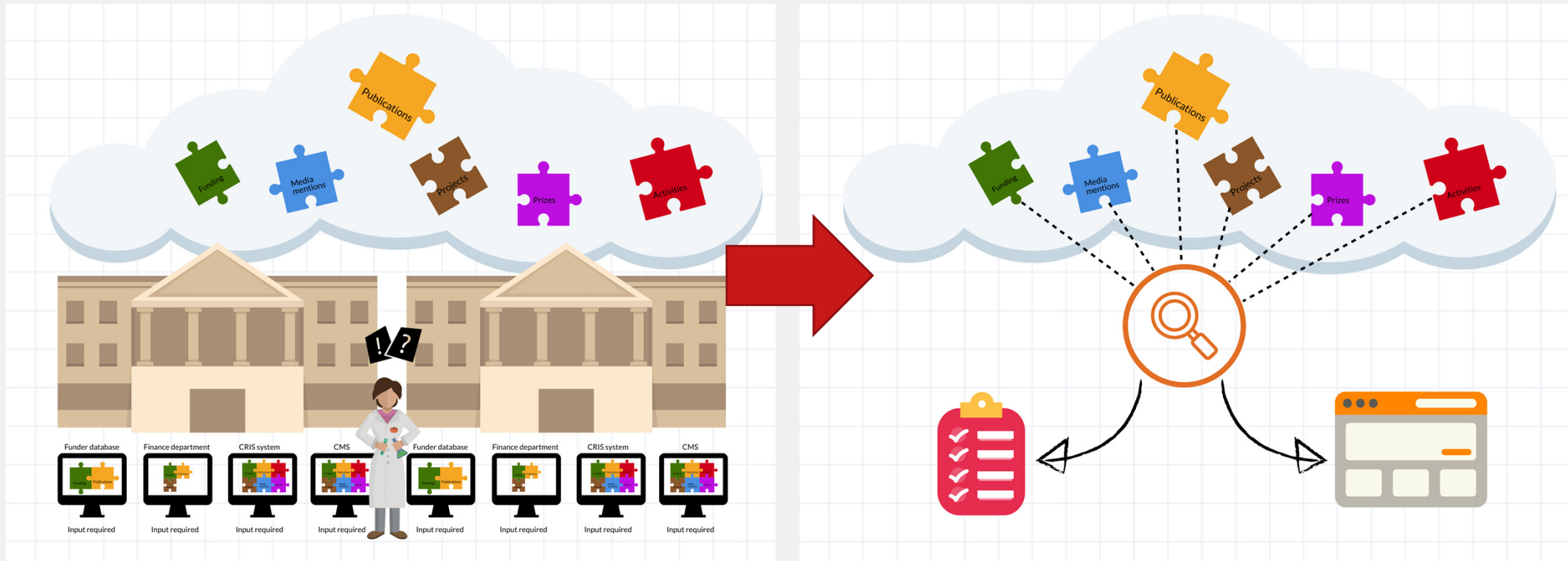
Eindhoven MedTech Innovation Center combines research from TU/e and several hospitals



Observations

- University vision for 2030: impact through collaboration
- CRIS (Pure) is organization based: data model has internal vs external concepts (staff, organizations, publications), limited portability
- We copy cloud data and make it 'local', requiring data curation by (research) staff that uploaded in in the first place. Attaching staff id's result in:
- GDPR roadblocks in combining data from multiple universities
- IT policies:
 - No more local development, buy off the market
 - Security (no access/university network account fee to access local CRIS)
- License model based on number of researchers accessing the CRIS
- Researchers do not want to commit to local administration (gmail address, websites outside campus domain)
- Focus on 'local administration' works against showcasing collaborations

Connected metadata > Quality local metadata



CRIS System : software -> platform

- Traditionally CRIS = end station
 - Local source of truth
 - Linked to / functions as repository
- Now becomes source system, supplies other systems with information
- JADS joint venture:
 - Reporting: Elsevier Project ADA: cloud dashboards on performance (Scopus + SciVal + 3rd party)
 - For showcasing: VIVO portal?
- CRIS systems as platform supplying data to new applications such as (open source) portals, CMS plugins, federated search engines, etc.
- (Linked) open data endpoints on CRISses (GDPR approved by default)

CRIS community developer collaboration

- CRIS systems are opening up (Pure CRUD API, Plan S requirement of open API)
- Developer communities are emerging – CERIF standard as the common denominator?
- Dev community goals:
 - Build open source tools (curate/enrich/showcase) or even evolve into CRIS systems (VIVO)
 - Allow interoperability on different CRIS systems to support researchers moving to a new workplace
 - Connect data from several sources to showcase collaborations (by copying or preferably real-time through linked data)
 - Drive toward open access research metadata (abstract legal issues)

Thank You

Site: tue.nl/research
Portal: research.tue.nl
FAQ: purefaq.tue.nl
n.veenstra@tue.nl