



**Maynooth  
University**

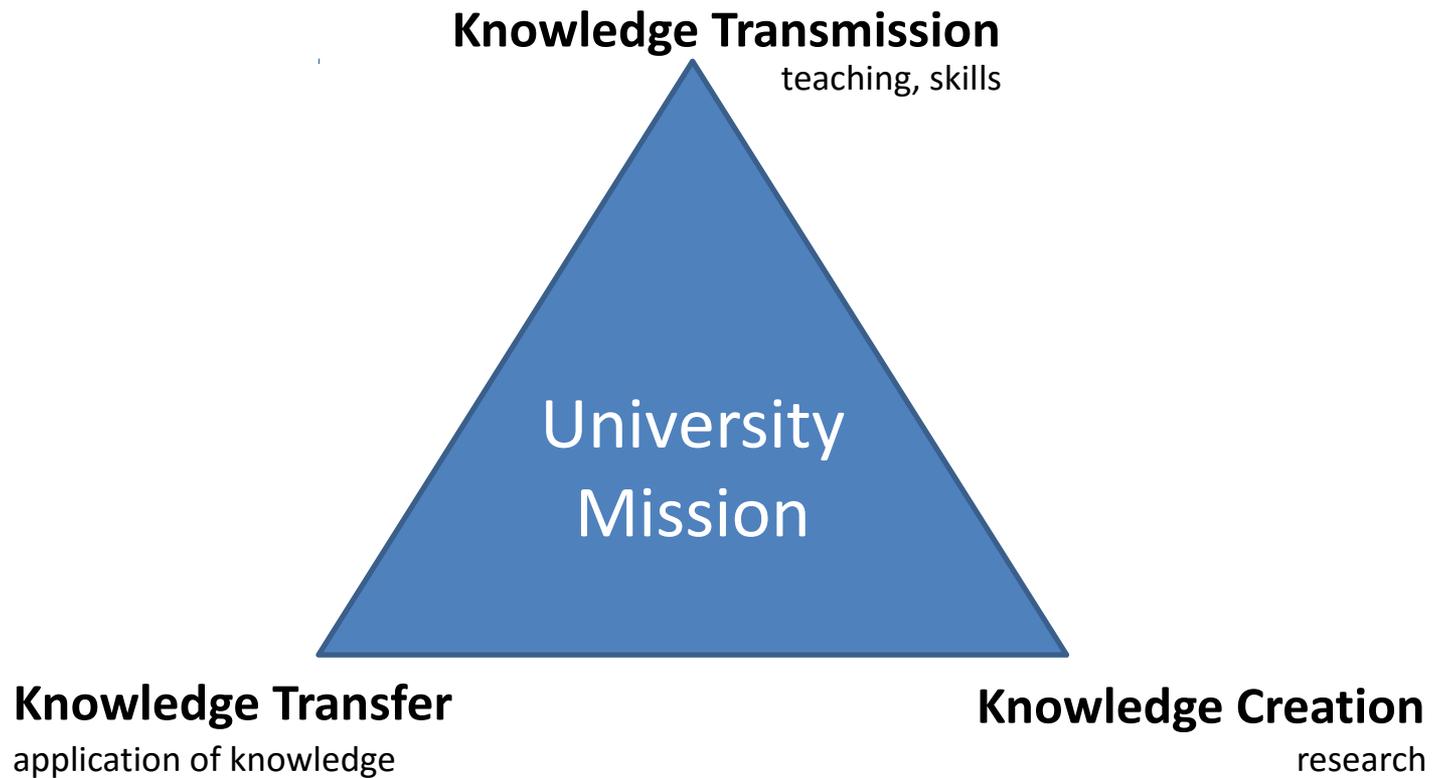
National University  
of Ireland Maynooth

# Knowledge Transfer:

A framework and metric set for maturity evaluation

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**Research Exploitation** (how to avail of technology at value)

**Research Collaboration** (how to leverage state and EU research collaboration supports)

**Consultancy Services** (how to use 3<sup>rd</sup> level institutes to generate data, reports, knowledge for your business)

**Facilities / Services** (how to avail of the wide range of equipment and facilities at 3<sup>rd</sup> level institutes)

**Student Supported Projects** (how to avail of postgraduate student expertise for your projects)

**Incubation Space** (how to access facilities to grow your start-up company)

- Standards – AUTM, ASTP
- Metrics *normalised to research expenditure*
  - LOA
  - Spin-out
  - Company links
  - IDFs
  - Patents
  - LOA Income

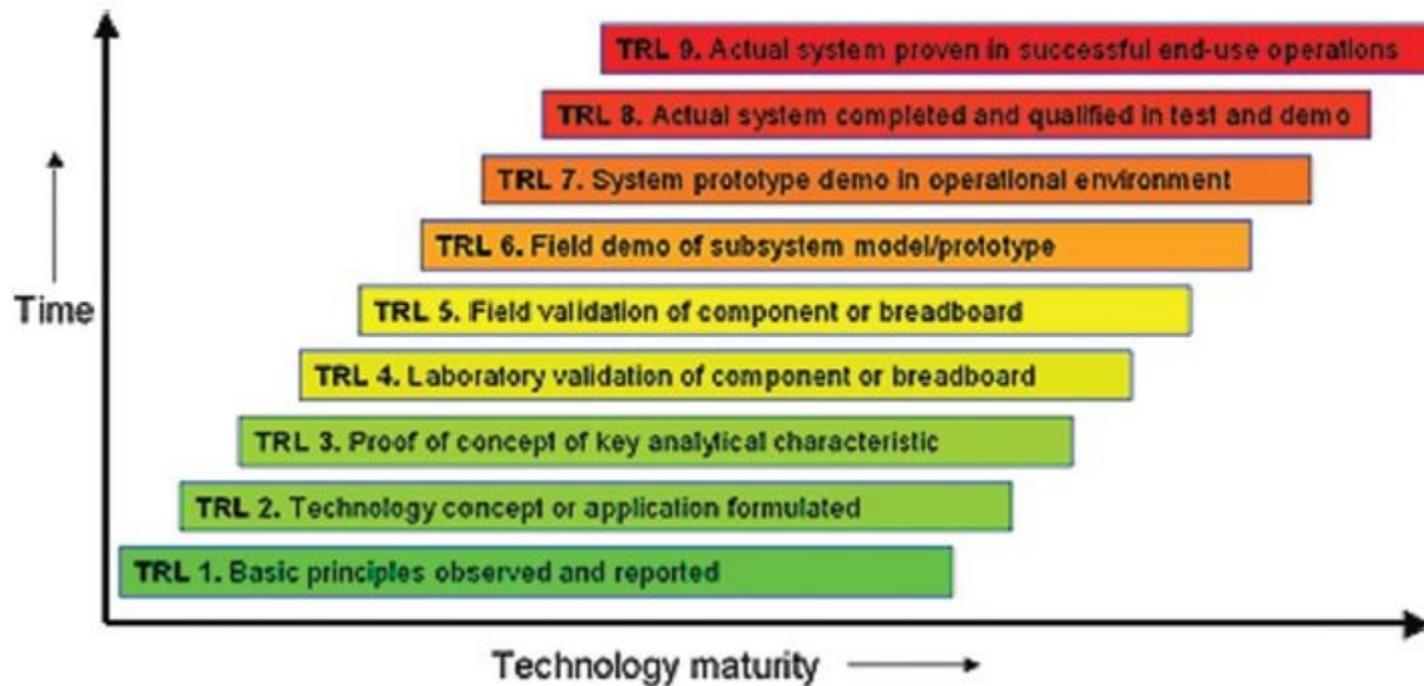
## Observations

- Comparing ourselves to Oxford or Stanford is (perhaps) crazy
- We are likely neglecting important information in the standard metrics

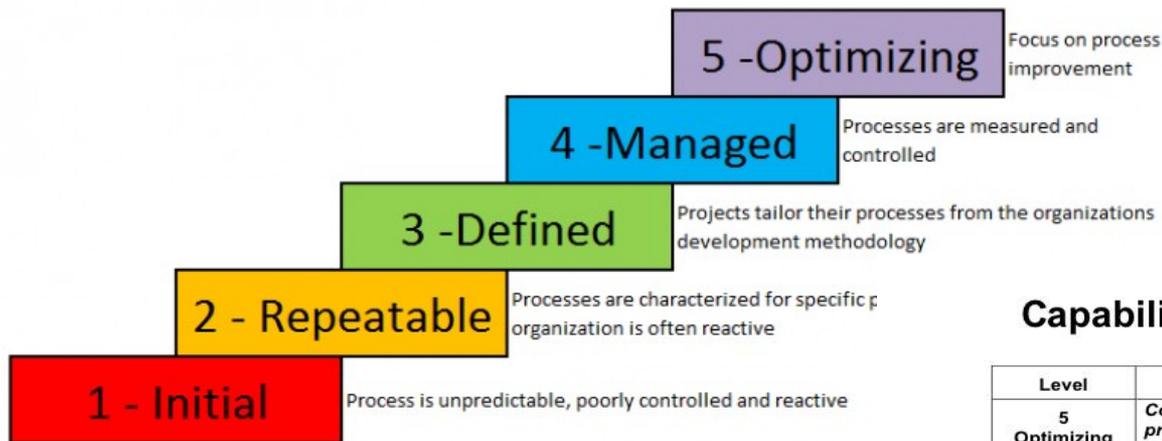
## Questions

- Can we develop a self-evaluation framework ?
- Can we pull additional useful information from the metrics ?

# Technology Readiness Levels



# Capability Maturity Frameworks



## Capability Maturity Model – Integrated

Level	Focus	Process Areas	Result
<b>5 Optimizing</b>	<b>Continuous process improvement</b>	Organizational Innovation & Deployment Causal Analysis and Resolution	<b>Productivity &amp; Quality</b>
<b>4 Quantitatively Managed</b>	<b>Quantitative management</b>	Organizational Process Performance Quantitative Project Management	
<b>3 Defined</b>	<b>Process standardization</b>	Requirements Development Technical Solution Product Integration Verification Validation Organizational Process Focus Organizational Process Definition Organizational Training Integrated Project Management Risk Management Decision Analysis and Resolution	
<b>2 Managed</b>	<b>Basic project management</b>	Requirements Management Project Planning Project Monitoring & Control Supplier Agreement Management Measurement and Analysis Process & Product Quality Assurance Configuration Management	
<b>1 Initial</b>	<b>Competent people and heroics</b>		

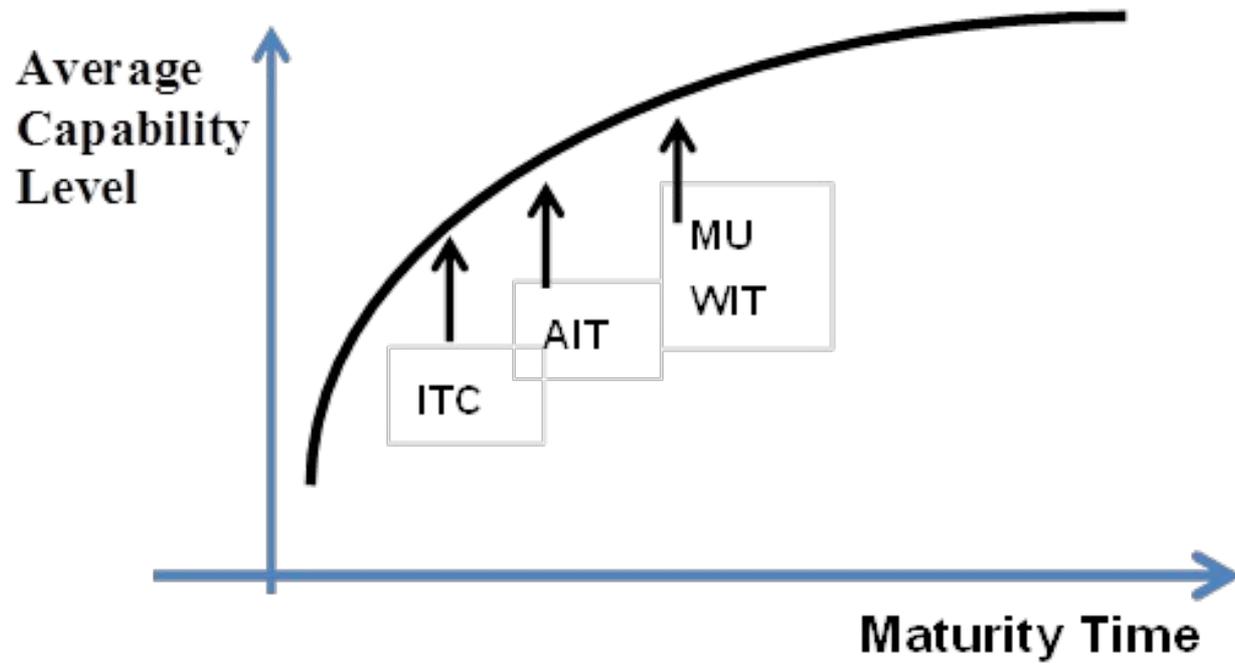
KT MATURITY FRAMEWORK	Level 1	Level 2	Level 3	Level 4	Level 5
<b>TT Staff Experience</b>	TT activity new to RPO, no dedicated TT/KT staff.	TT/KT staff at early experience level.	TT/KT staff with developing expertise and skills.	Staff at RTP or equivalent.	Highly experienced and skilled TT/KT staff mix.
<b>Spin-outs / LOA Activity</b>	Very low, sporadic and unplanned activity.	Developing TT output, first LOA deals, some spin-out possibilities.	LOAs regular and planned, emerging pipeline of spin-outs.	Several years' experience in LOA and HPSU type spin-out creation.	Large portfolio of deal experience. Well-developed activity pipeline.
<b>Industry Engagement</b>	Emerging industry engagement.	Pockets of industry engagement.	Good industry engagement across several research groups.	RPO wide targeted industry engagement.	Large portfolio of RPO wide industry contracts.
<b>Consultancy Activity</b>	No institutional consultancy strategy, private capacity only.	Pockets of RPO administered and planned consultancy.	RPO wide policy and mechanism for consultancy.	Managed and marketed consultancy offering by RPO.	Significant and mature consultancy activity across RPO.
<b>TT / KT Culture</b>	TT/KT culture not well established.	TT/KT culture accepted at management and researcher level.	TT/KT activity considered in staff promotion evaluation.	RPO wide recognition that TT/KT activity is an important activity.	TT/KT embedded as core RPO activity along with teaching and research.
<b>IP Management Processes</b>	RPO IP management policies not in place.	First version policies relating to LOAs and spin-outs in place.	Developed IP and campus company policies.	First RPO wide processes for IP Management as per IP Protocol.	RPO broad IP management developed and monitored.
<b>Transaction Speed and Quality</b>	Institutional inexperience in TT/KT activity.	TT/KT contract negotiation laborious and time consuming.	TT/KT contract negotiation slow due to multiple review / sign-off.	TTO has remit to negotiate and sign off on all TT/KT deals.	Very efficient and effective TT/KT transactions.

Staff

Office

Institute





## Metrics *normalised to research expenditure*

LOA

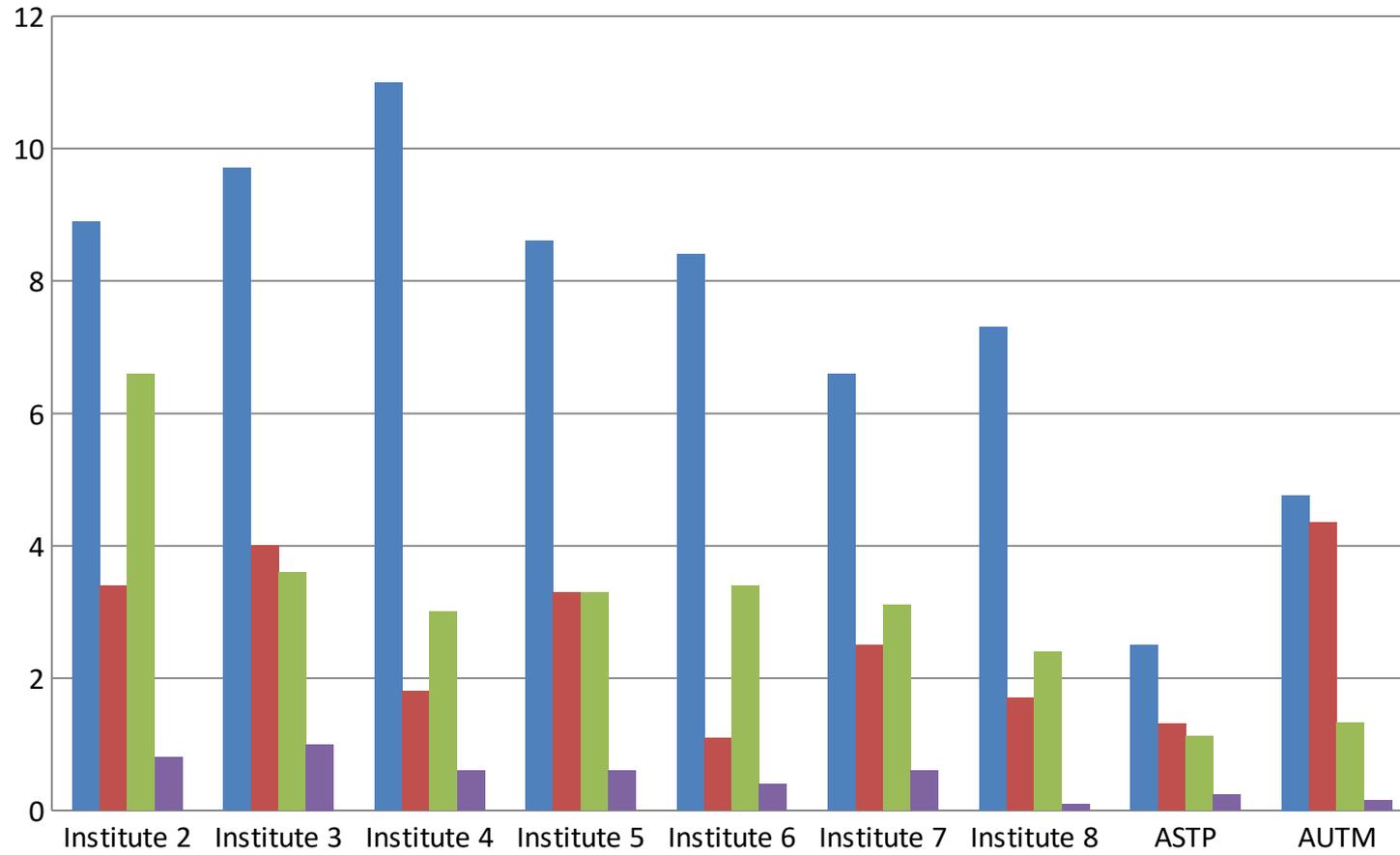
Spin-out

IDFs

Patents

Company links

LOA Income



# 1. Observations

- a) LOA volume (possibly) measures TTO quality
- b) LOA income (possibly) measures research quality

- ) Smaller institute bias ??
- ) No culture measurement ??

Metrics *normalised to research expenditure*

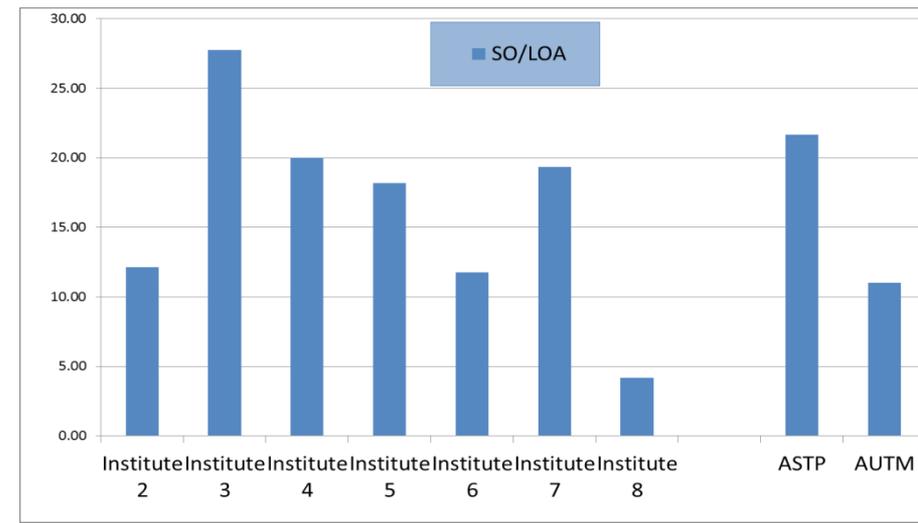
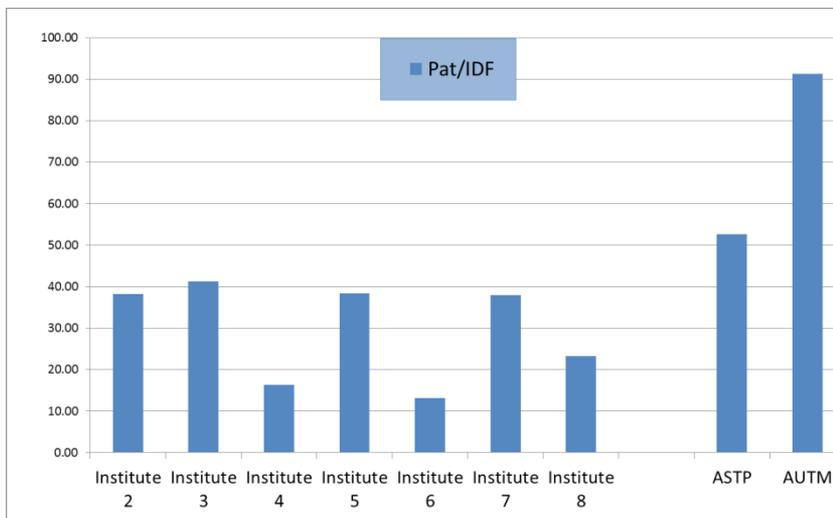
LOA  
Spin-out  
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LOA Income

## 2. Ratios (that ought to be) invariant

- a) Pat/IDF (~30%)
- b) SO/LOA (~20%)

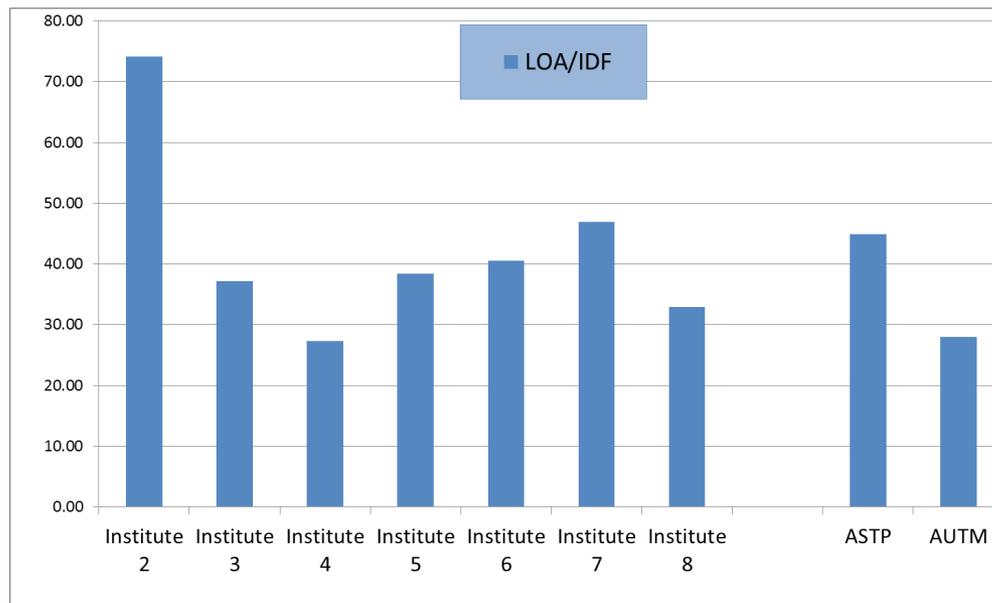
Metrics normalised to research expenditure

LOA  
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### 3. New ratios (evaluation)

#### a) LoA / IDF – TTO effectiveness

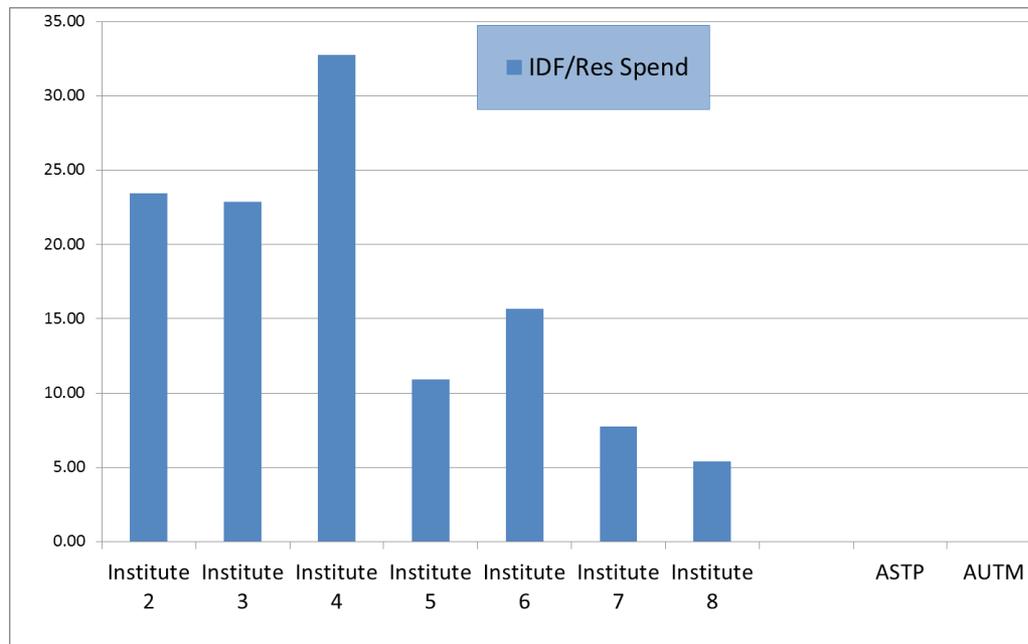


Metrics normalised to research expenditure

LOA  
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### 3. New ratios (evaluation)

#### b) IDF / Res Spend - Culture



Metrics normalised to research expenditure

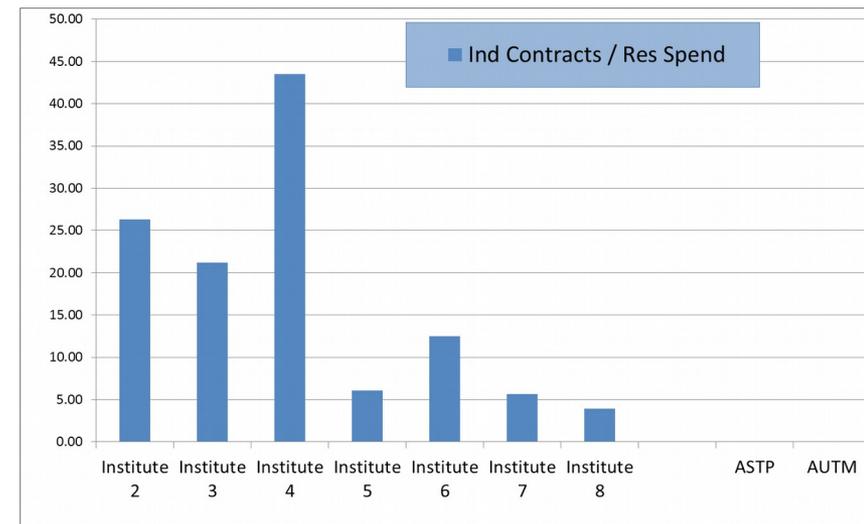
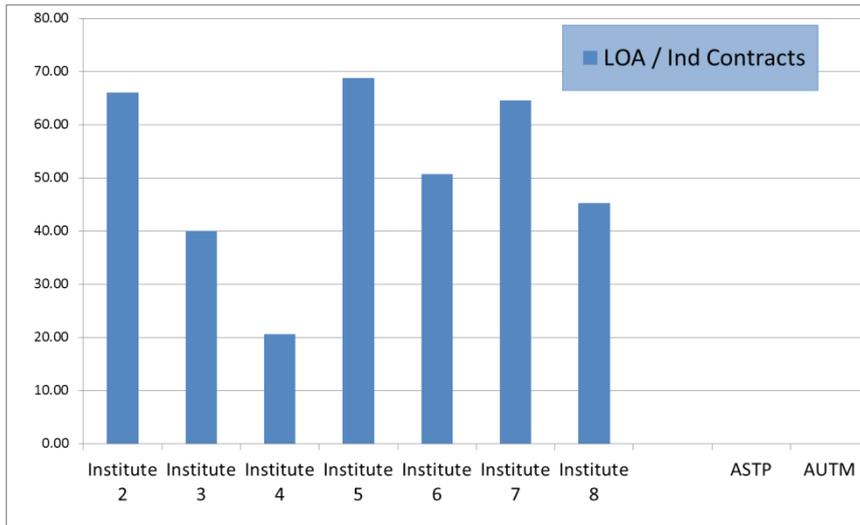
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### 3. New ratios (evaluation)

- c) LOA / Industry Contracts – Industry engagement
- d) Industry Contracts / Res Spend – Industry engagement

Metrics normalised to research expenditure

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LOA / IDF



LOA / Ind Contract



IDF / Res Spend



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# Thank You For Listening