

the professional body for  
through-life management of physical assets



# A critical examination of asset management curriculum in Europe, North America and Australia

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IAM Academic and Research Network

# Agenda

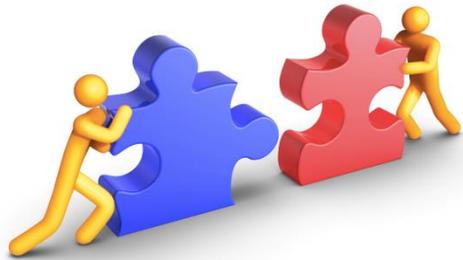


- IAM Academic and Research Network
- Methodology
- Findings and Discussion
- Recommendations and future work

## What is the IAM Academic and Research Network (ARN)?

- A forum to bring together academics and practitioners dedicated to best practice and innovations in asset management
- University-Industry participation
- International group of experts
- Multidisciplinary
- Concrete outcomes and deliverables (not restricted to events and conferences!)
- Current membership: 123 members – 45 academic, 78 industry

# Objectives of the IAM ARN



Improve **collaboration**  
between industry and  
academia



Improve **alignment**  
between industry needs  
and academic research



Enhance the quality of  
**mentoring and education**  
to current and future asset  
management professionals

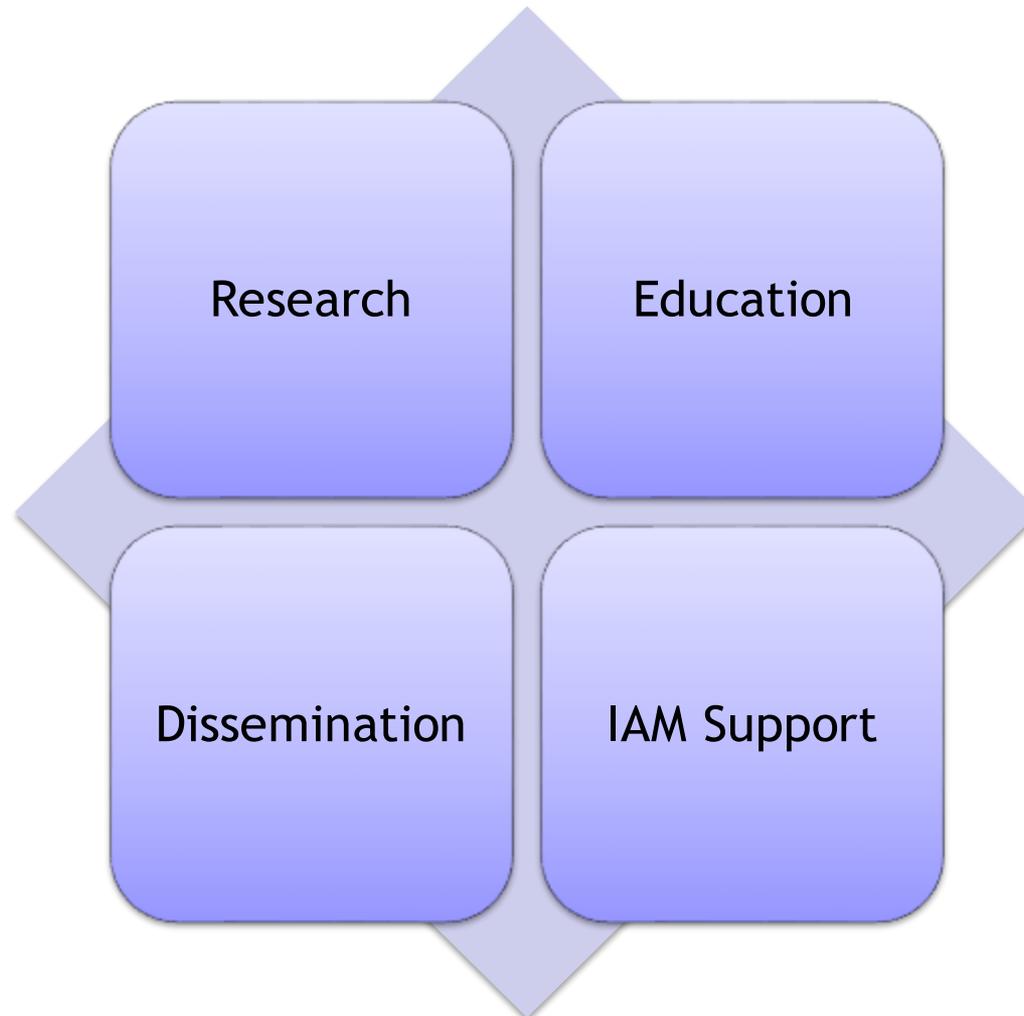


**Influence** funding agencies to  
provide more funding for asset  
management research



Support and enhance IAM's  
role in providing **thought  
leadership**

# Activities of the IAM ARN



# Agenda



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# IAM Asset Management Conceptual Model

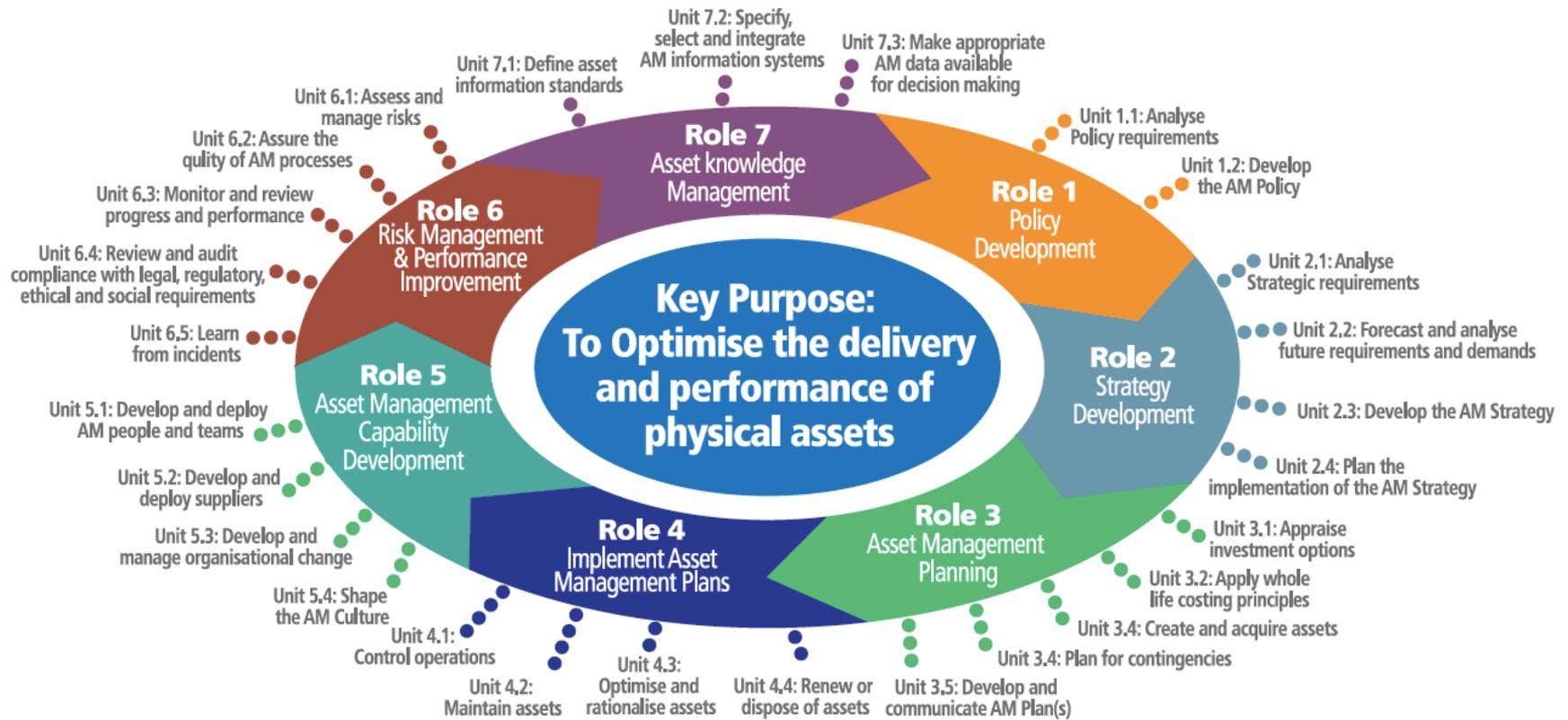


# ASSET MANAGEMENT SUBJECTS & SUBJECT GROUPS



<b>Strategy &amp; Planning</b>	<b>Asset Management Policy</b>
	Asset Management Strategy & Objectives
	Demand analysis
	Strategic planning
	Asset Management planning
<b>Asset management decision making</b>	Capital investment decision-making
	Operations & Maintenance decision-making
	Lifecycle Value Realisation
	Resourcing strategy
	Shutdowns & Outages strategy
<b>Lifecycle delivery</b>	Technical standards & legislation
	Asset creation & acquisition
	Systems engineering
	Configuration management
	Maintenance delivery
	Reliability engineering
	Asset operations
	Resource management
	Shutdowns & Outages management
	Faults & Incidents response
	Asset decommissioning and disposal
	Asset information strategy
	Asset information standards
	Asset information systems
	Data & information management
<b>Organisation &amp; People</b>	Procurement & supply chain management
	Asset management leadership
	Organisational structure
	Organisational culture
	Competence management
<b>Risk &amp; Review</b>	Risk assessment & management
	Contingency planning & resilience analysis
	Sustainable development
	Management of change
	Asset performance and health monitoring
	Asset management system monitoring
	Management review, audit and assurance
	Asset costing and valuation
	Stakeholder engagement

# IAM Competences Framework



# Countries vs. courses reviewed

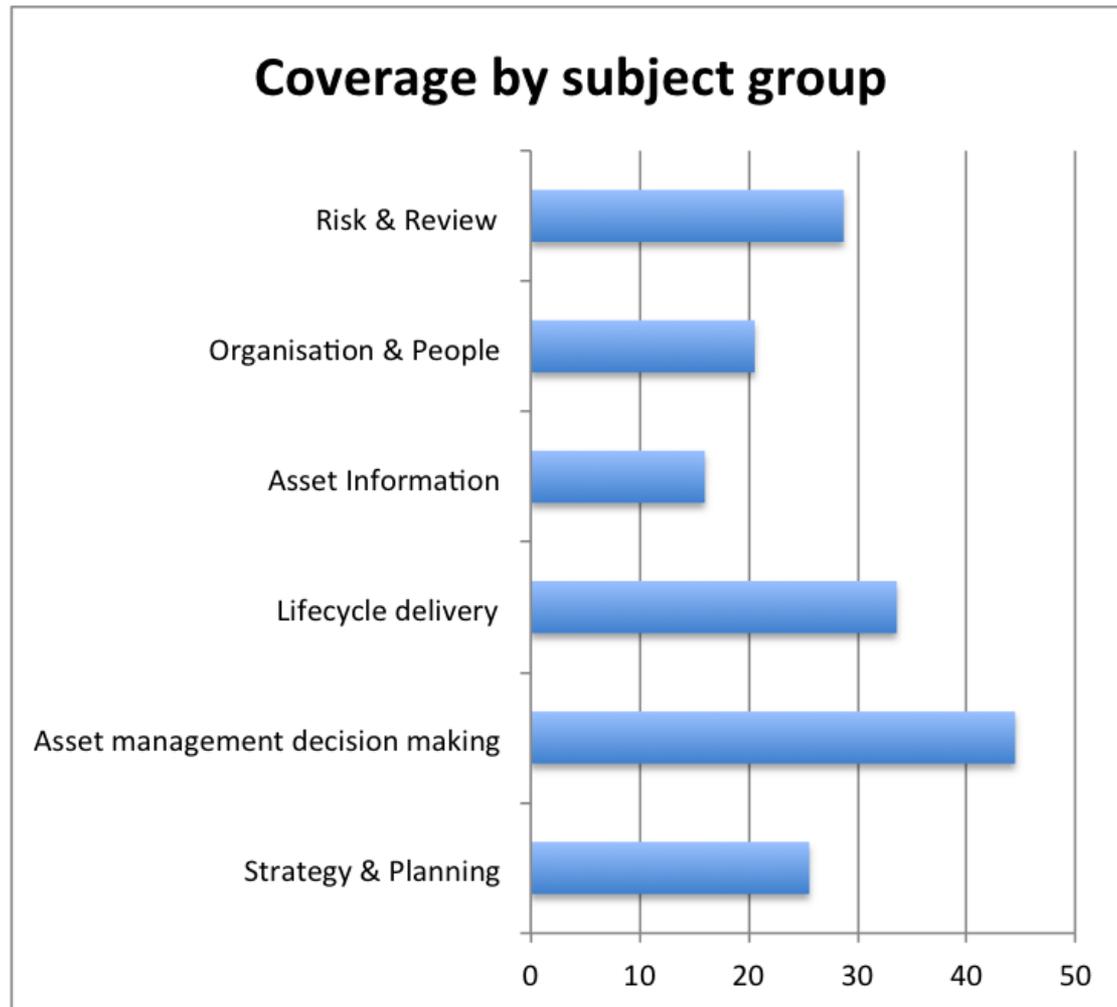
Country	Number of courses
UK	12
Canada	4
Australia	6
Netherlands	2
Spain	1
Switzerland	1
Norway	2
USA	6
Trinidad & Tobago	1
Sweden	1

# Agenda

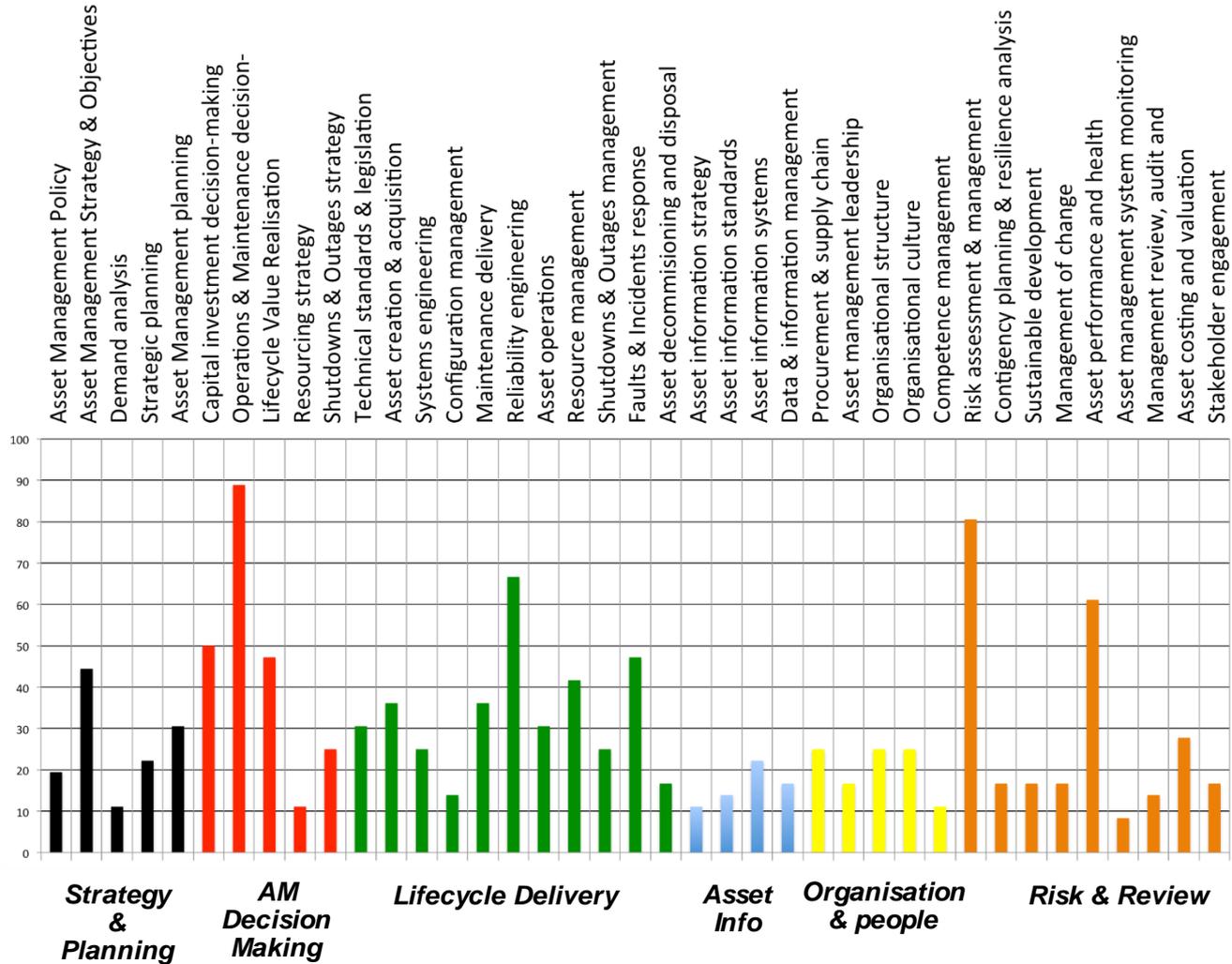


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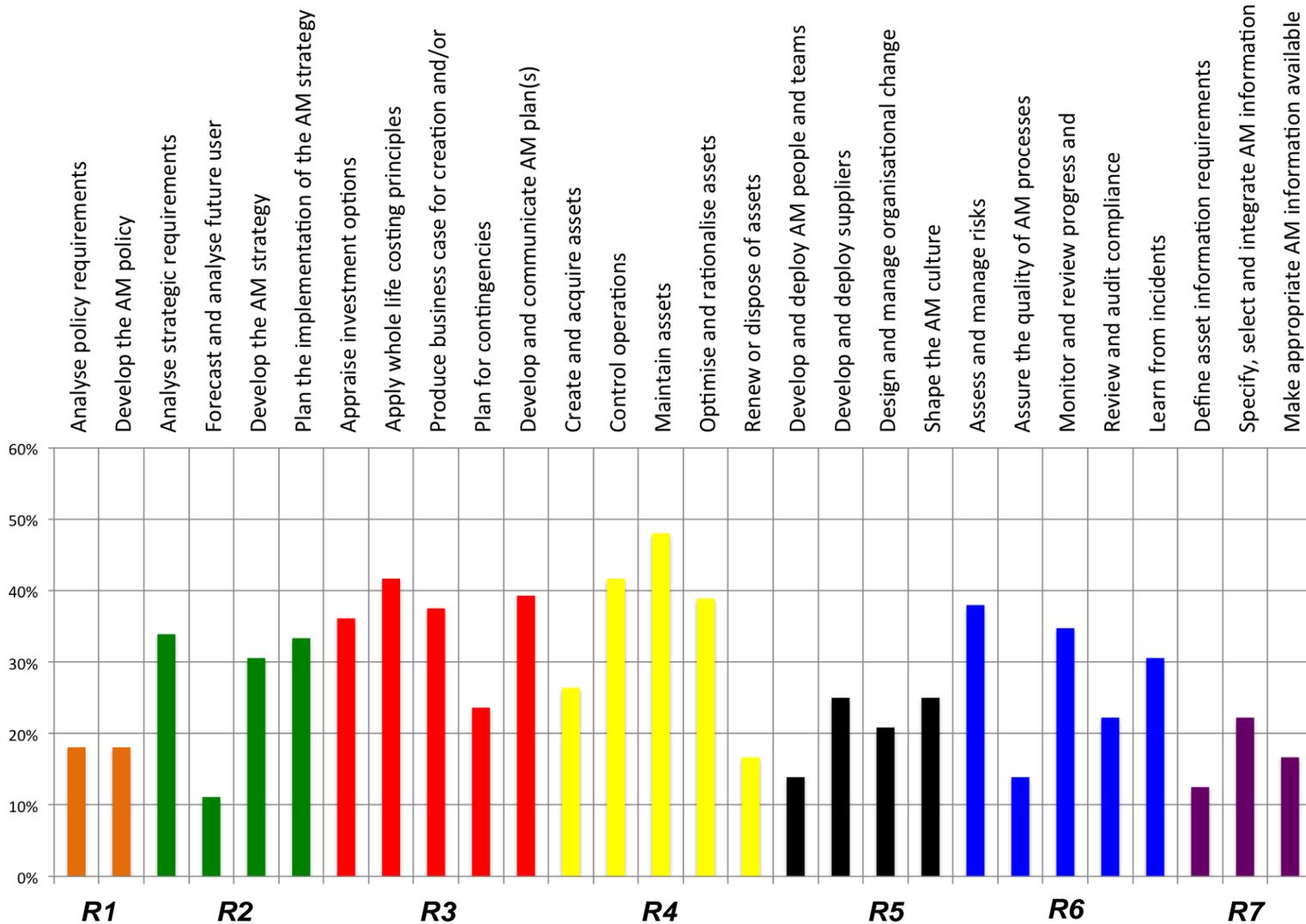
# Subject group coverage



# Coverage of the 39 subjects



# Coverage of competences



## ROLES

- R1: Policy development
- R2: Strategy development
- R3: AM Planning
- R4: Implement AM Plans
- R5: AM Capability Development
- R6: Risk Management
- R7: Knowledge Management

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# Recommendations



- A systematic review of education programs and comparison against industrial requirements is essential
- The IAM Anatomy and the IAM Competency Framework provide a reasonable guidance and starting point for curriculum design and identifying learning
- Program designers must strive to strike a balance between the ‘harder’ and ‘softer’ aspects of asset management.
- Asset management education programs must deliver courses that will prepare graduates to enter this digital world.
- Program designers must carefully define the competences that need to be attained through their courses and competences that can only be attained on the job. This will also help industry to develop appropriate on-the-job training programs that fill the gaps in skillsets required by the role of the employee.

# Future work



- What is the current demand in industry for the different AM roles and how are those demands addressed now?
- What is the current supply in academic programs against all 7 AM roles?
- Which of the following types of programs are more desired: full time, part time, evening, weekends, etc.?
- What is the expected future demand for undergraduate programs in AM?
- Which topics are best to be delivered by practitioners vs by academics? Which ones are better to be delivered jointly?

Thank you!

Any Questions?

