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UNIVERSITY



Centre for
Smart Modern Construction

c4SMC INTER-UNIVERSITY ACADEMIC ROUNDTABLE

14th November 2018

On Site to Off Site – Implications to Construction Skill Profiles

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Supervisory Panel



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For The Next Few Minutes.....

- Why Off Site Construction?
- Why Skills?
- Why Now?
- Research Aim
- Research Objectives
- Conceptual Model
- Detail Model



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Traditional Onsite Construction



Productivity?
Health and Safety?
Weather?
Timely targets?
Wastage?
Sustainability?

On Site

Off Site



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Murray Grove – London



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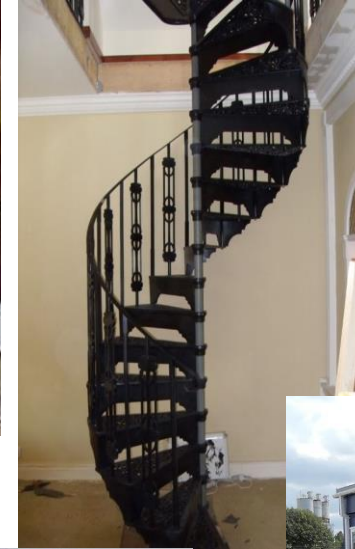
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Mini Sky City - China



Types of Off Site Construction

- Component manufacturing
- Non-volumetric pre-assembly
- Volumetric pre-assembly
- Modular building



| | |
|--------------------|-----|
| Carpenters | 91% |
| Framing crews | 86% |
| Bricklayers/masons | 74% |
| Drywall installers | 73% |
| Concrete workers | 72% |
| Roofers | 67% |
| Electricians | 60% |
| Painters | 60% |
| Plumbers | 58% |

Source: National Association of Home Builders

Number of Japanese construction labourers under 30 years of age is 10% of the total construction workforce.

Professionals

Craft
Workers

Estimators?

Bricklayer?

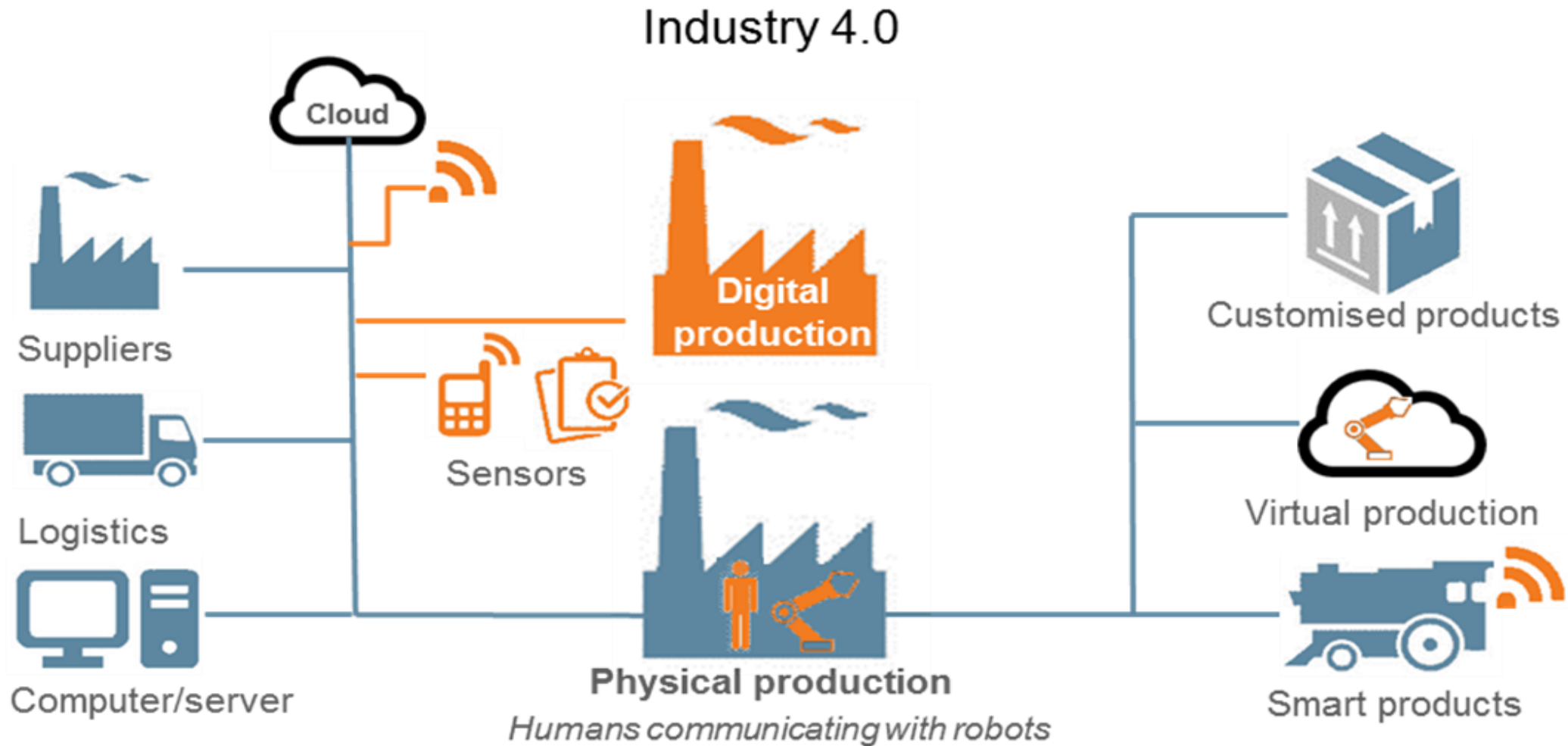
Stonemason?

Surveyors?

Plasterer?

45%

44%



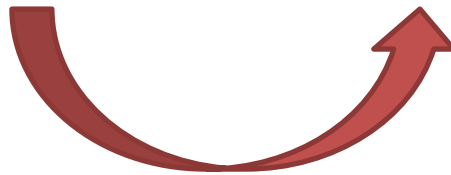
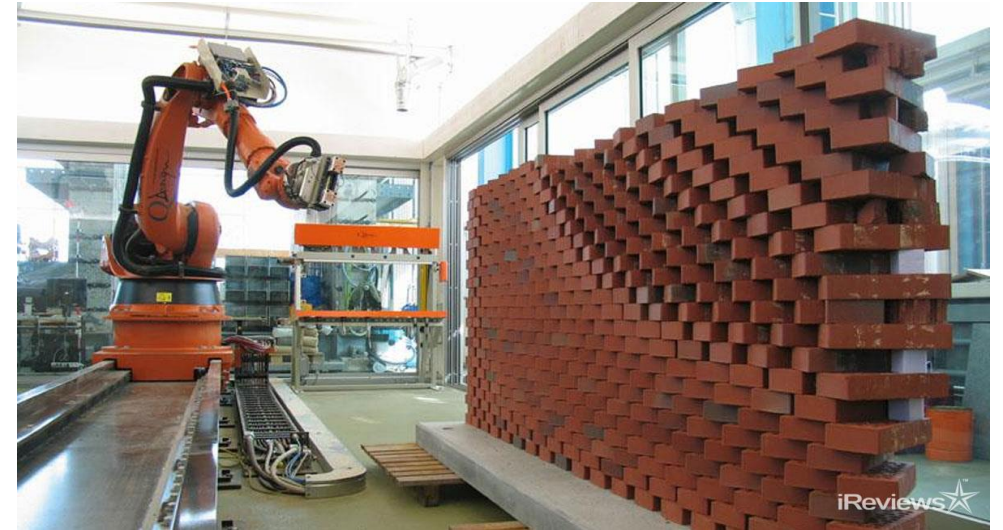
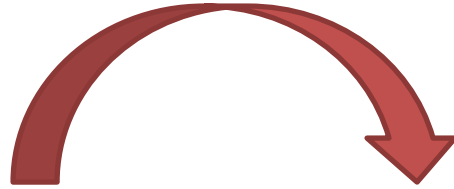


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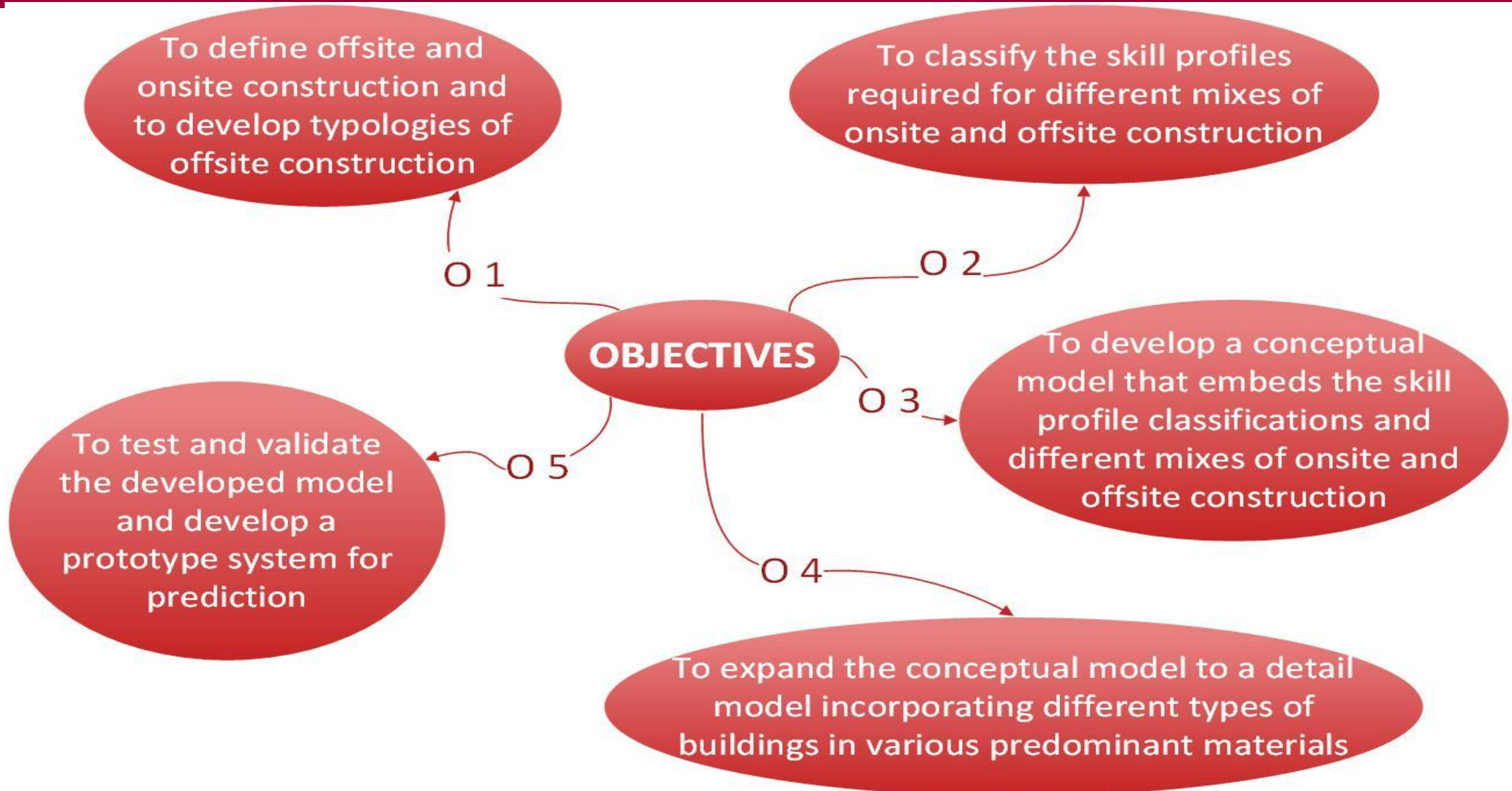


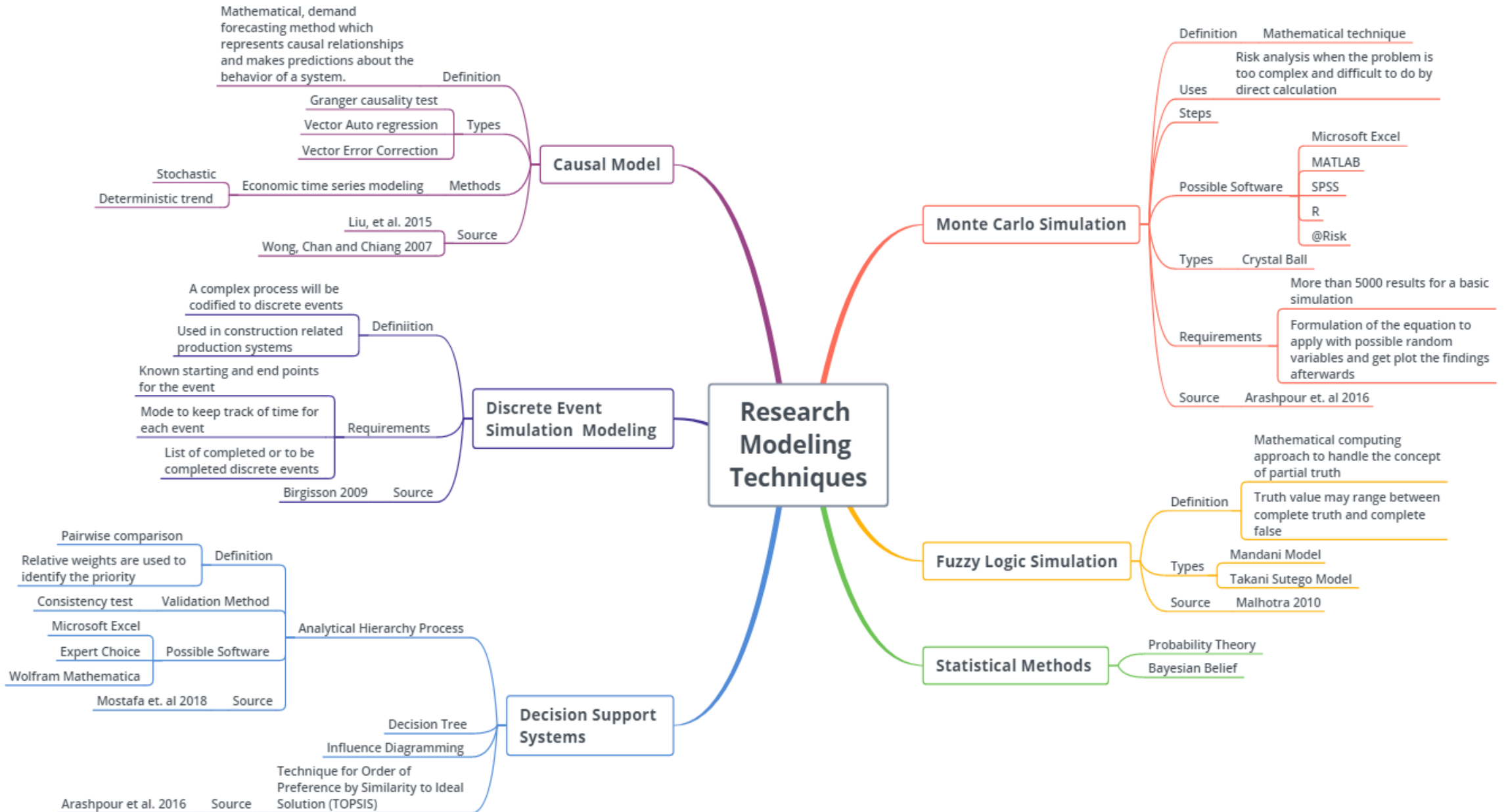
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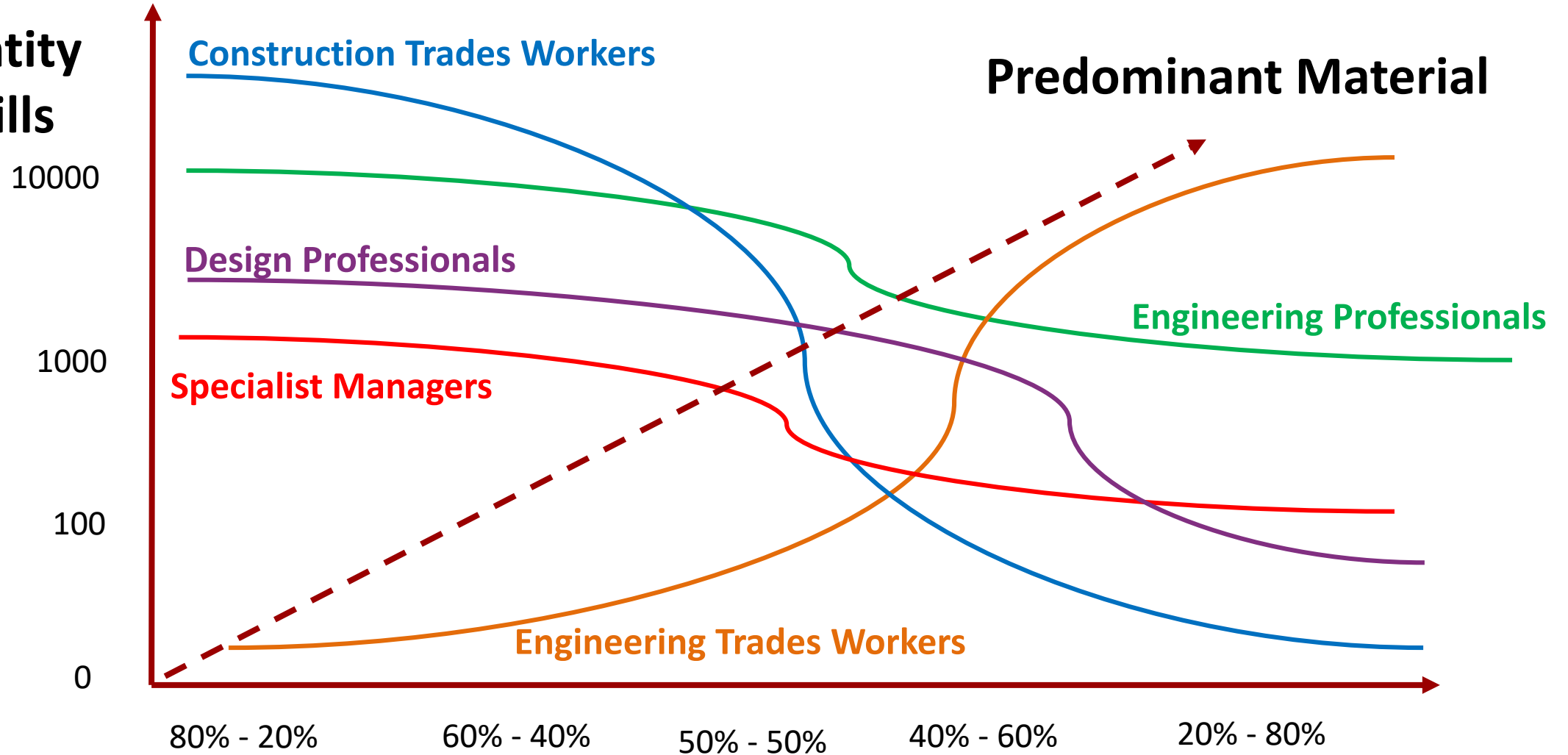
Aim

Develop a *skill profile prediction model* for different mixes of on site and off site construction.

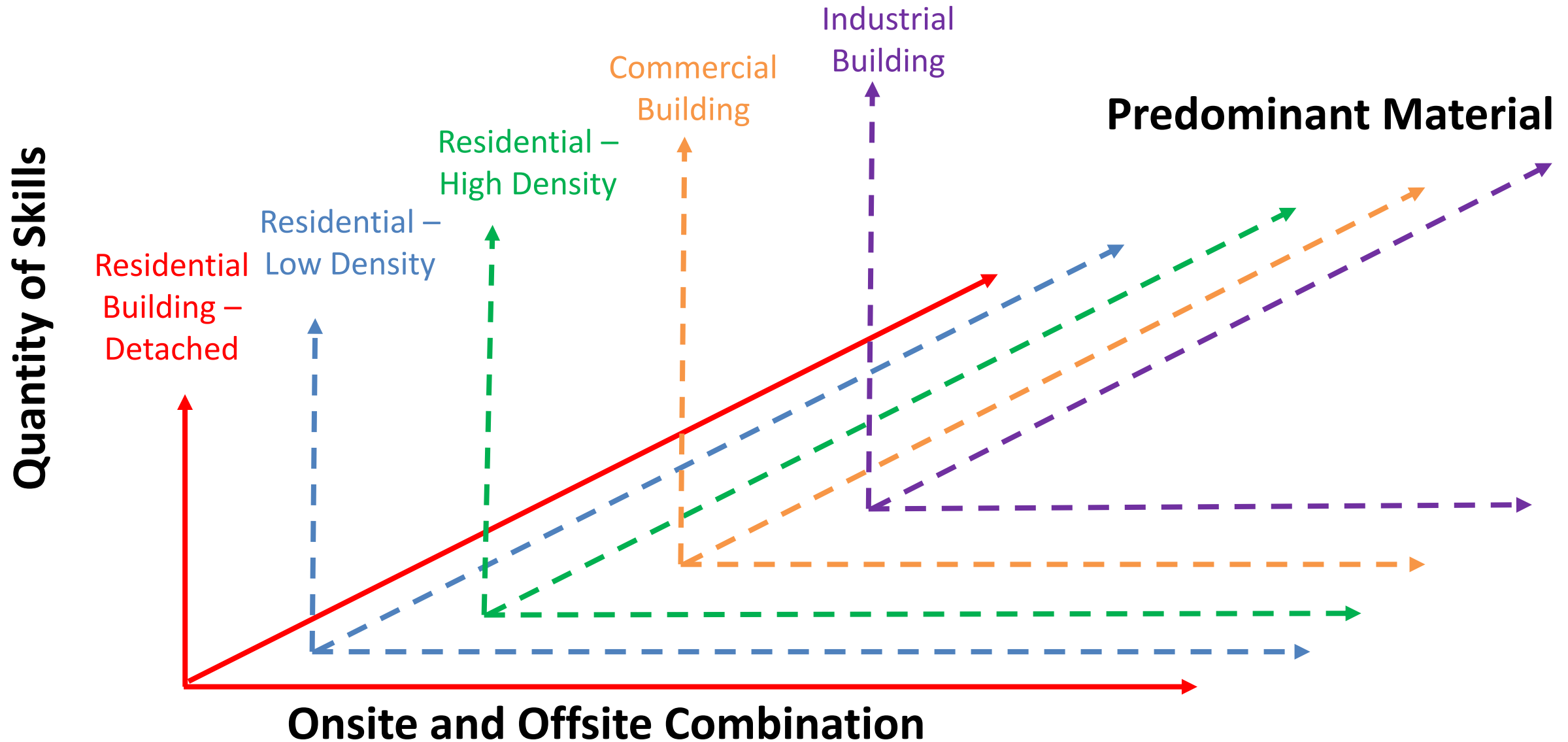




Quantity of Skills



Onsite and Offsite Combination





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Thank You!



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A C4SMC COLLABORATION



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