Scaling Up

What is an ultra-large-scale system:

- More an ecosystem than system
- 1000s of stakeholders
- Multiple user scenarios and requirements
- Continuous integration
- A wide variety of infrastructure and process integration

1 Characteristics of large system development

- Collections of separate, communicating systems, where separate teams develop each system
- Development team spread over locations and timezones
- Include and interact with a number of existing systems
- Constrained by external rules and regulations limiting the way that they can be developed
- Long procurement and development time
- Diverse set of stakeholders

2 Distributed teams

Create coherence:

- Acknowledge bit and small cultural differences
- Strengthen functional and team subcultures

Change how you communicate:

- Cross team communication mechanisms have to be designed and used. This should involve regular phone and video conferences and frequent electronic meetings
- Initial and quaterly face to face meetings
- Stay together for as many iterations as possible
- Need strong documentation

3 Agile in large systems

Some attributes significant in applying Agile to large projects are:

- Retain team sizes
- Iteration length
- Synchronised cadence
- Batch size
- Preserve PO and User role

4 Scrum in large systems

Scrum of Scrums:

- A team member from each scrum regularly attends the scrum of scrums to coordinate work

Large scale scrum:

- Team focused on the whole product instead of individual parts
- Only one sprint and backlog
- One overall product owner

5 Problems of large system development

- Project managers may be reluctant to accept the risk of a new development approach
- Quality procedures and standards that would be incompatible with agile methods
- Large range of skill levels in large organisations
- Cultural resistance to using agile

6 Technical, human and organisational questions

- Is it important to have a very detailed specification and design before moving to implementation
- Is an incremental delivery strategy realistic
- How large is the system being developed
- What type of system is being developed
- What is the expected system lifetime
- What technologies are available to support system development
- How is the development team organised
- Are there cultural or organisational issues that may affect the system development
- How good are the designers and programmers in the development team
- Is the system subject to external regulation