

## Systems Engineering for Prototyping Modular Construction Systems Checklist

Checklist for Modelling Systems	Location of files
<b>For your system in development do you have:</b>	
<input type="checkbox"/> Hierarchy of components (breakdown structure)	<hr/>
<input type="checkbox"/> Possible interdependencies (direct, common mode failures)	<hr/>
<input type="checkbox"/> Emergent dynamics and behaviours	<hr/>
<input type="checkbox"/> Boundaries of the system	<hr/>
<input type="checkbox"/> Boundaries of the model – do they match system boundaries?	<hr/>
<input type="checkbox"/> How are you modelling the system?	<hr/>
<input type="checkbox"/> Design Structure Matrix	<hr/>
<input type="checkbox"/> Model-Based System Engineering	<hr/>
<input type="checkbox"/> Control Theory	<hr/>
<input type="checkbox"/> Systems Dynamics Model	<hr/>
<input type="checkbox"/> Petri Net	<hr/>
<input type="checkbox"/> Stakeholder Influence map	<hr/>

## Checklist for Systems Issues

## Location of files

**Have you thought about the following emergent systems properties:**

Safety

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Resilience/Antifragility

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Security

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Manufacturing constraints

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Assembly constraints

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Environmental impact

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Carbon/Pollution

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Quality

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Human factors

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Lifecycle/Maintainability (through-life?)

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Training needs

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Affordability/Cost Effectiveness

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Reliability of supply

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Value engineering

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Integrated logistics

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Electro-magnetic compatibility

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This checklist is part of a more comprehensive Toolkit developed by the [Centre for Systems Engineering and Innovation \(CSEI\)](#) at Imperial College London as part of the [Impact award](#) associated with the Royal Academy of Engineering and Laing O'Rourke Chair in Systems Integration. The Toolkit aims to provide Systems engineering principles, tools and pointers for developing configurable product platforms for Design for Manufacturing and Assembly (DfMA) in infrastructure. [Click here](#) for more information. Follow us on Twitter [@CSEI\\_Imperial](#)