























Systems engineering 1995 - 2007 Seems to have begun in the 1940's or 1950's Systems engineering will solve the complex problems we face (since 1950's) Disagreements definitions of a "System" as to the nature of systems engineering on what systems engineers do Overlapping disciplines Systems of systems © Joseph Kasser 2008 13





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Insights

Wicked problems appear in the

first stage of the scientific

Try the scientific method – at

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It's a Wicked problem*

least the next stage

method

Rittel and Webber, 1973



























History and origin

"Driven by cold war pressures to develop new military systems rapidly, operations research, systems engineering, and project management resulted from a growing recognition by scientists, engineers and managers that technological systems had grown too complex for traditional methods of management and development" *

Evolution continues

* Johnson, 1997

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СММІ

MIL-STD-499C

No

No

V

CRED 2004























The third dimension of the HKM Framework?

- Candidates based on classification of:
 - Complexity
 - Domain
 - Types of systems
 - Risks
 - Problem solving
 - Other ways ?











Selection of problem solving methodologies

- Individual methodologies apply to one or more specific areas of the framework
- What works in one area may not work in another area
- There is no current universal methodology that works in every area
- Need to learn what methodology to use for which type of problem in which area <sup>© Joseph Kasser 2008</sub>

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