Center for Embedded Systems

An NSF Industry/University Cooperative Research Center

Reliable Wireless Communications in Aircraft and Other Challenging Environments

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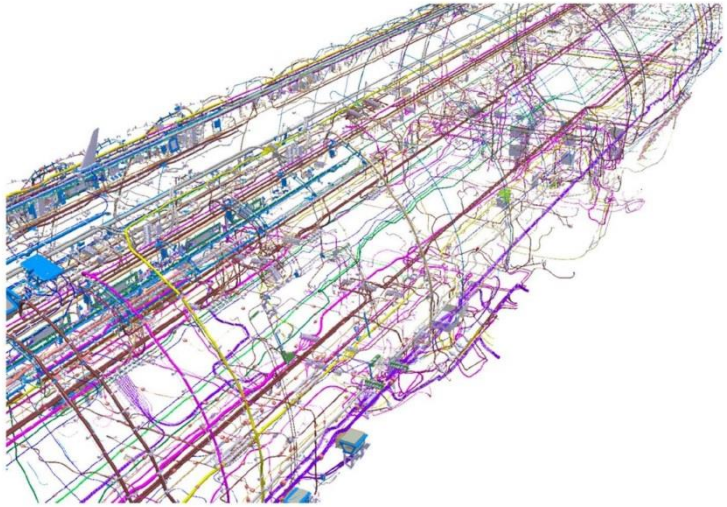
Project Overview and Description

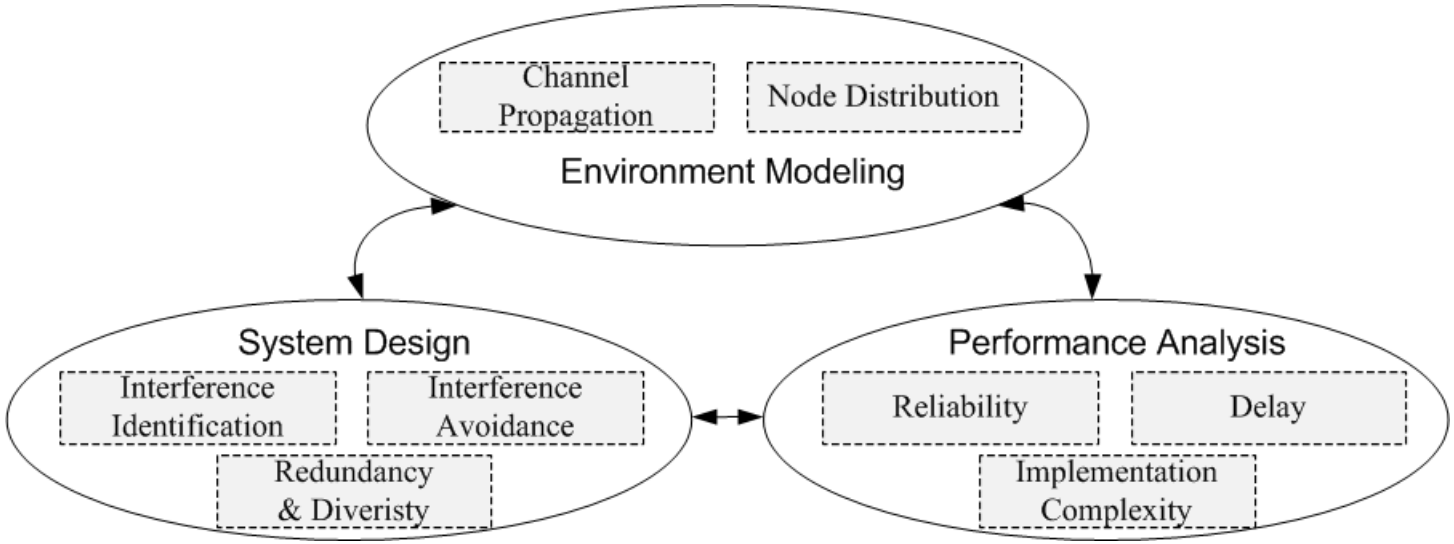
Potential Industry Sponsor – UTC Aerospace Systems

- **Problem**
  - Conventional wired connections
    - issues in weight, cost, safety, maintainability
  - Current wireless connections
    - not reliable enough
- **Potential applications**
  - Aircraft
    - safety-critical
    - diagnostic
  - Hazard detection
    - fire, gas leaks
    - structural weakness



Electrical systems in A350.

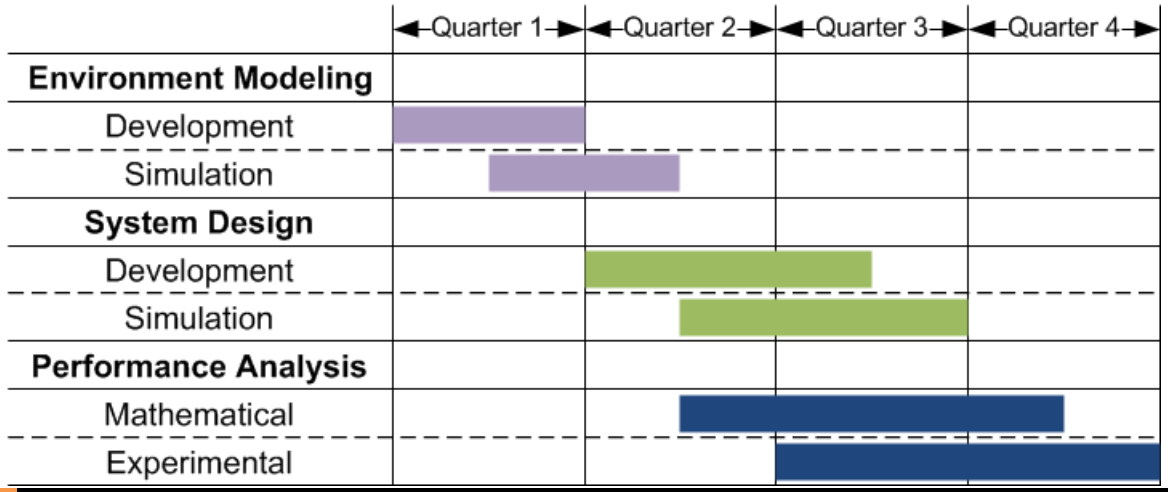
Approach



- **Novelty**
  - Tailored to specific operational environments
  - Robustness against interference and failure
  - Flexible balance between reliability and cost
- **Potential benefits**
  - Development and integration of reliable wireless systems
  - Feasibility validation of wireless solutions and products

Project Tasks/ Deliverables

	Description	Date	Status
1	Environment modeling - development	08/15/2013-11/14/2013	
2	Environment modeling - simulation	10/01/2013-12/31/2013	
3	System design - development	11/15/2013-03/31/2014	
4	System design - simulation	01/01/2014-05/14/2014	
5	Performance analysis - mathematical	01/01/2014-06/30/2014	
6	Performance analysis - experimental	02/15/2014-08/31/2014	



midterm report & presentation
conference/journal paper 1

conference/journal paper 2
simulation programs
final report & presentation