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| The good of computation and the 'not so good' | | | |
| Computation | tion in | | |
| <u>Design</u> to inspire creativity | | Ariane 501 Inquity Board report | |
| – <u>Features</u> for unparalleled flexibility | | | |
| – Systems | s of unforeseen complexity | Paris, 19 July 1996 | |
| | Ariane 5 has[] a build-up of h is five times more rapid than for | orizontal velocity which r Ariane 4. [] | |
| RISH No.14 | The internal SRI software exception was caused during execution of a data conversion from 64-bit floating point to 16-bit signed integer value. | | |
| | perform complete, closed-loo | op, system testing. | |
| | | Prof. J. L. LIONS 30 | |







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| What is the problem | (1.)? | |
| International Technology Roadmap for Semiconductors 1999 Edition | GAO | United States General Accounting Office Report to Congressional Committees |
| | March 2000 | F-22 AIRCRAFT Development Cost Goal Achievable If Major Problems Are Avoided |
| | GAO/NSIAD-00-68 | G A O |

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| What is the problem (1. |)? | | |
| International Technology Roadmap for Semiconductors 1999 Edition | GAO | twited States General Accounting Office Report to Congressional Committees | |
| DESIGN | March 2000 | F-22 AIRCRAFT | |
| Too complex to des | ign | Development Cost Goal Achievable If Major Problems Are Avoided | |
| initial software of blocks 3 and 3.1 ha and 14 months beh ⁷ Block 3 is the third ma brings most avionics so | initial software development tasks related to blocks 3 and 3.1 have been delayed between 1 and 14 months behind the 1997 schedule. ⁷ Block 3 is the third major avionics software segment, which brings most avionics software in an integrated system. | | |
| | GAO/NSIAD-00-68 | | |
| | | 3 | 35 |













































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| Agenda | |
| On the importance of computation Challenges in engineering system Why model time as discrete end of the system end of the system | ation stems events mple |
| | 58 |































































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| A multi-rate system example | | |
| Source $\{2, 7, 3,\}$ Ts = 2 (s) hold Gain | Source T RT T Delay T Base T 1/z Delay Ts = 1 (s) | F T F T F T F T F T F T F T T T T T T T |























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| Agenda | |
| On the importance of compute Challenges in engineering s Why model time as discrete A unifying semantic domain A heterogeneous system ex Conclusions | utation systems events cample |
| | 108 |

