



Royal Netherlands Army



# PERSPECTIVES ON C4ISTAR

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**Royal Netherlands Army / Directorate of Material**

Meeting C4ISTAR Requirements; 24th september 2002

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# THE C2SC OF THE ROYAL NETHERLANDS ARMY: KNOWLEDGE CENTRE ON COMMAND & CONTROL

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**“What is needed from the military is a clearer elucidation of its capability requirements for C4ISTAR ....**

**....what is needed from industry is a clearer picture of whether it can develop such capability and deliver it as required (on time and within budget) to the operator”**



## **My statements:.....**

**The operator can not define his requirements sufficiently**

**Changing requirements lead to changes in the contract, higher costs and a longer time of development**

**Increasing technical possibilities do not allow a long time of development**

**There is always an interoperability problem**

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# ARCHITECTURAL DESIGN

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# ARCHITECTURAL DESIGN

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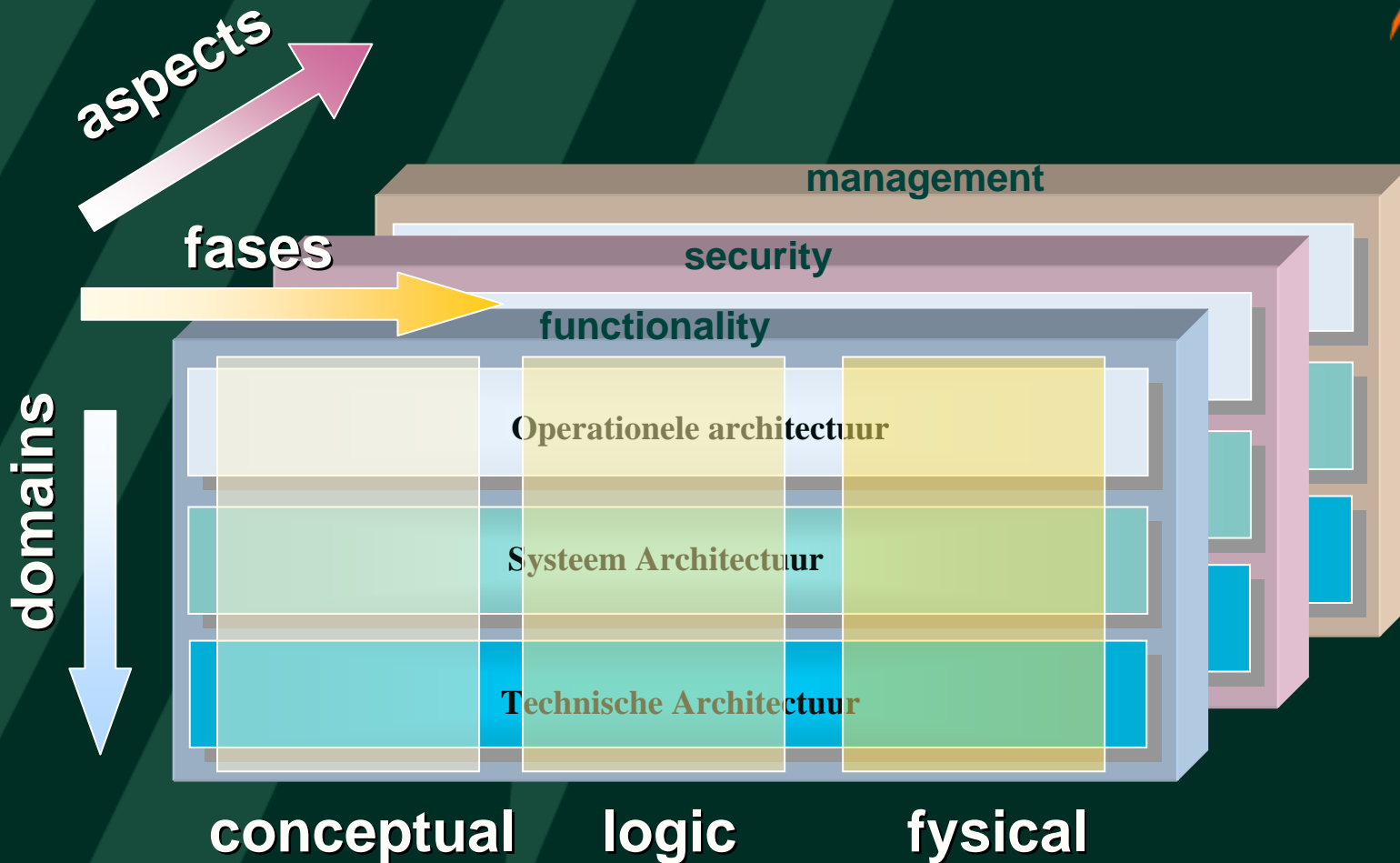


THE FRAMEWORK FOR OUR SYSTEMS



# ARCHITECTURAL DESIGN

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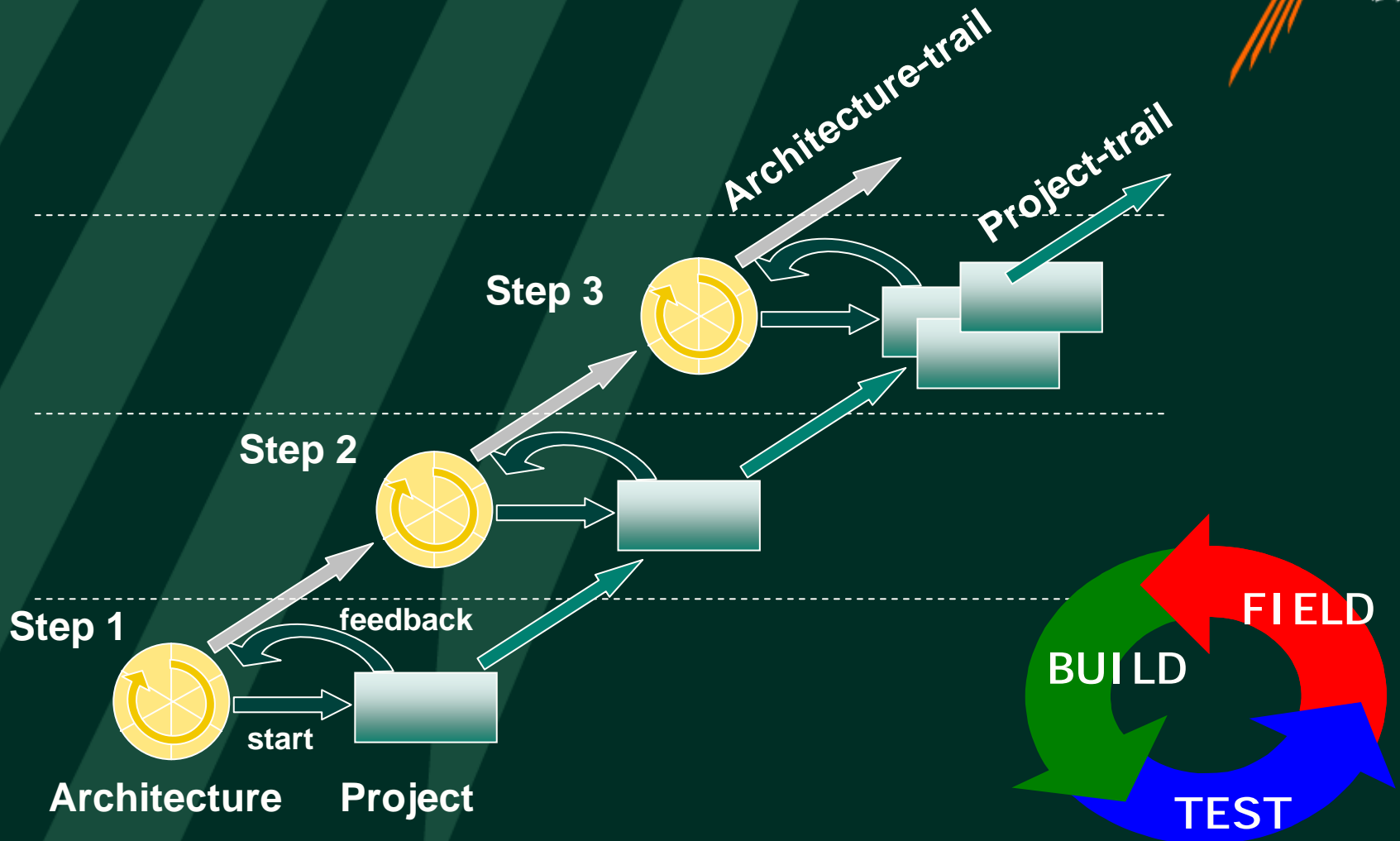
# EVOLUTIONARY DEVELOPMENT

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# EVOLUTIONARY DEVELOPMENT

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# EVOLUTIONARY DEVELOPMENT

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## Important items:

**The military take the lead and they decide**

**Civilian experts or experts from industry are engaged**

**Use commercial-off-the-shelf components**

**System integrator**

**Involvement of the operator**



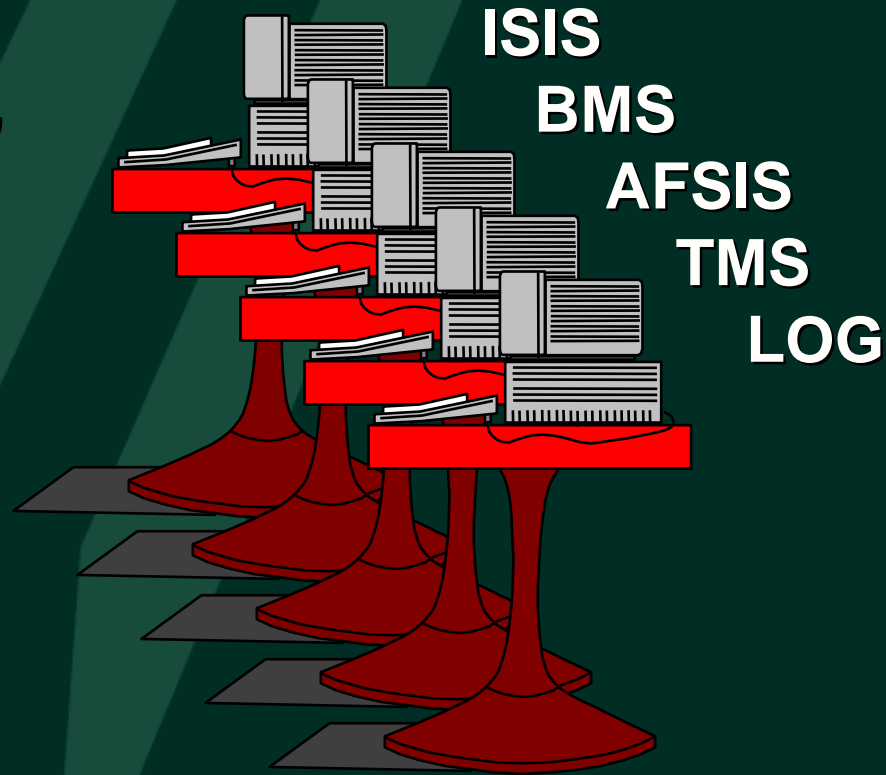
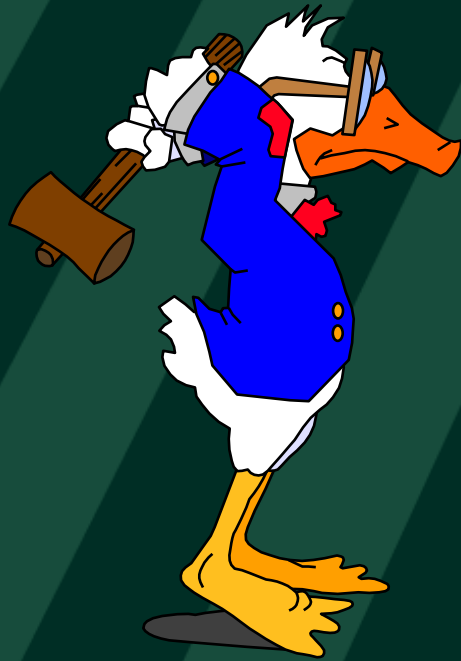
# INTEROPERABILITY

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# INTEROPERABILITY

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FROM SEPARATE SYSTEMS .....

# INTEROPERABILITY

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**GENERIC LAYER:  
THE C2 WORKSTATION**

..... **TOWARDS NATURAL INTEROPERABILITY**



# INTEROPERABILITY

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ISIS

BMS

AFSIS

TMS

LOG

??

**GENERIC LAYER:  
THE C2 WORKSTATION**

..... TOWARDS NATURAL INTEROPERABILITY

# RESULTS SO FAR

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# RESULTS SO FAR

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## In general

**Learning by doing: “build a little, test a little, field a little”  
and “learn a lot”**

**Changing requirements during the development**

**Quick results**

**Possible to keep up with modern technology**

**Architecture takes care of interoperability**

# RESULTS SO FAR

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## Explicit 1

**Our Theatre Independent Tactical Army & Airforce Network (TITAAN) based on IP technology for our HRFHQ: designed, tested, procured and implemented in 1,5 year**

**Design and system integration by only 20 persons of whom about 15 civilian/industrial experts**

**Costs about half of the former system**

# RESULTS SO FAR

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## Explicit 2

**Our Integrated Staff Information System (ISIS), Battlefield Management System (BMS) and Artillery Fire Support Information System (AFSIS) integrated on one platform (C2-workstation)**

**Interoperability between the systems guaranteed**

**Low cost solution with modern technology**

# SUMMARY

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## > STRATEGIC CHOICES

ARCHITECTURAL DESIGN

EVOLUTIONARY DEVELOPMENT

INTEROPERABILITY

## > RESULTS SO FAR