



**Welcome**

**Royal IHC**  
*meets*  
**MKC**



**The technology innovator.**



# Welcome to Royal IHC

*Krimpen aan den IJssel*





## Agenda

13.30 Inloop

14.00 Keynote 'Complexe Scheepsbouw: een en al Systeemintegratie'

*Joti Hakkert, Directeur IHC Motion Control & Automation*

14.15 System Engineering: een nieuwe aanpak?

*Ir. Ernst G. Molier adviseur, Witteveen & Bos / Docent Systems Engineering, PAO Delft*

14.45 Risk, Innovation and Change; Doelen realiseren onder onzekerheid

*Dr. ir. Martin Th. Van Staveren, directeur - eigenaar / sr. adviseur risicomanagement Van Staveren Risk Management VSRM*

15.15 Pauze

15.45 Des4Ops: een nieuwe maritieme ontwerpaanpak?

*Prof. ir. Hans Hopman, TU Delft, faculteit 3ME, Hoogleraar Ship Design, Production and Operations*

16.30 Implementeren: hoe overwin je weerstanden?

*Dr. ir. Ubald Nienhuis MBA, Managing Partner Bloem Doze Nienhuis*

17.00 Forumdiscussie en aansluitend een netwerkborrel



# Royal IHC & Complex shipbuilding

**Joti Hakkert**

*Director IHC Motion Control & Automation*

**Wouter Kruijt**

*Director IHC Technology & Services &  
MKC staff member*

**June 26<sup>th</sup>, 2014**



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- Sapura Topázio
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- The floating result





## About Royal IHC: Company profile (1)

- **Markets**

- Dredging → Global market leader
- Offshore → Oil & gas
- Mining → Dredge + marine (deep-sea) mining

- **Customers**

- Dredging operators
- Oil & gas corporations
- Offshore contractors
- Government authorities





## About Royal IHC: Company profile (2)

- Continuous development of design and construction activities for the specialist maritime sector (niche markets)
- **Vessels**
  - Custom-built, complex, focus on engineering
  - Pre-designed modular IHC Supporter<sup>®</sup> class series
  - Standard IHC Beaver<sup>®</sup> and IHC Packhorse<sup>™</sup> range
  - Worldwide customer base
- **Vessel and equipment**
  - Integrated product
  - New-build
- **Life-cycle support**
  - After-sales service
  - Training



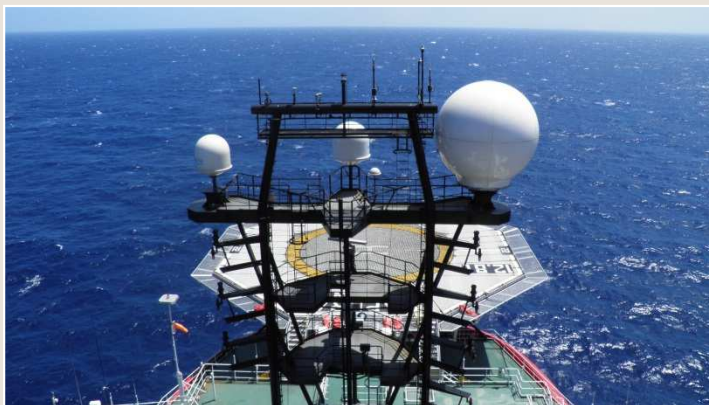


## Essence of complex vessels: system integration

In engineering, *system integration* is defined as the process of bringing together the component subsystems into one system and ensuring that the subsystems function together as a system.

In information technology, *systems integration* is the process of linking together different computing systems and software applications physically or functionally, to act as a coordinated whole.

The system integrator brings together discrete systems utilizing a variety of techniques such as computer networking, enterprise application integration, business process management or manual programming. Bron: Wikipedia







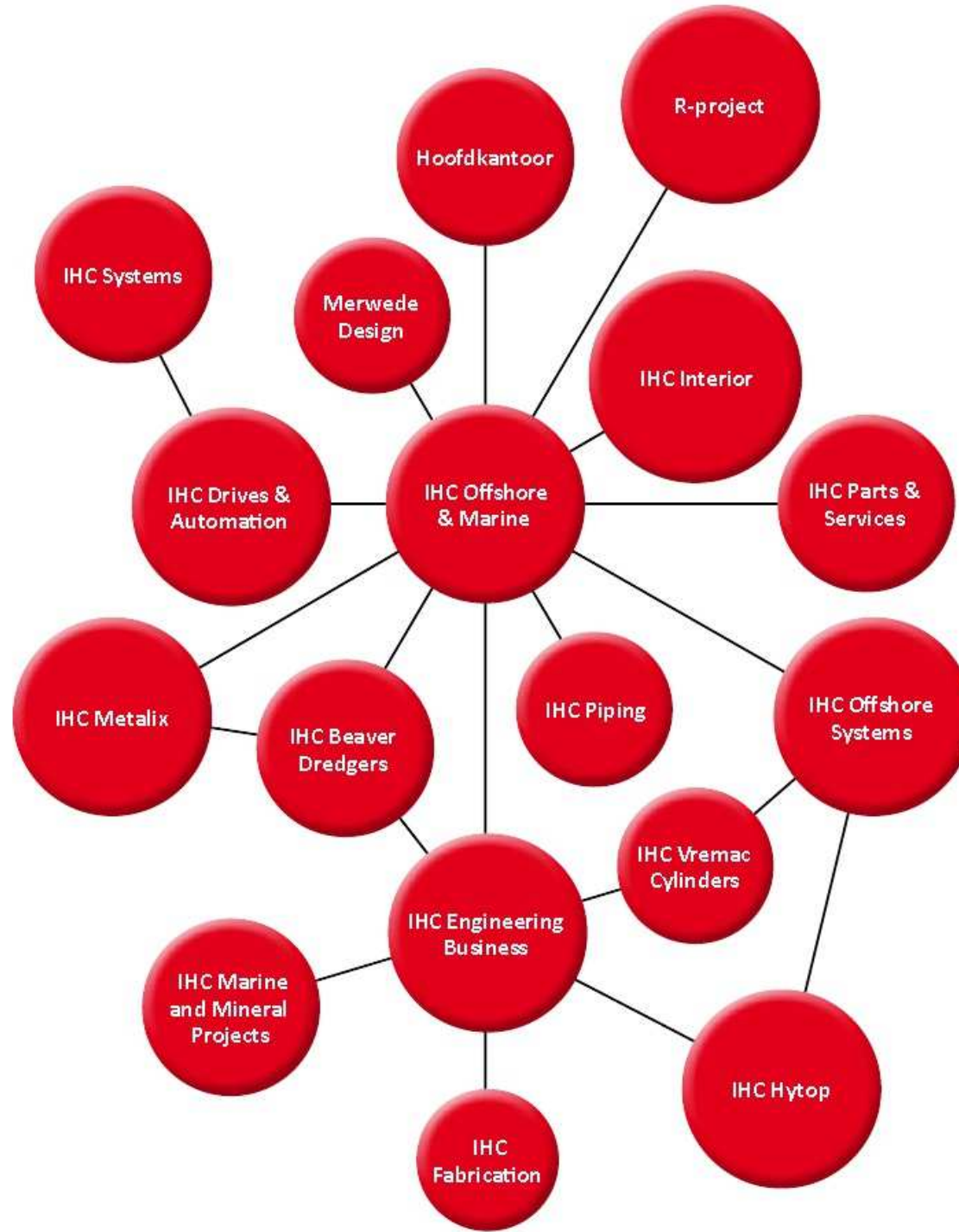
## Sapura Topázio

- 6,000 I/O
- 300 km. cable
- 120 main sub systems
- DP2
- 25,000 electrical connections
- FMEA
- 80,000 inch meter piping
- 6,500 tonnes steel
- 108 sections
- 24,6 MVA = 50,000 households
- Hundreds of quality standards
- 5,000 documents
- Different design tools, logistic databases etc.
- 17 IHC business units involved
- Uniformity required





# System integration





System integration