

## FEADSHIP

### “Near-shore power”

#### 1 Introduction

Feadship is a designing, engineering, manufacturing and servicing company of Superyachts from 30-160m. The companies Royal van Lent (1849) and Koninklijke de Vries (1906) own various yards, interior workshops, system suppliers and an naval architecture office called De Voogt (1913). Feadships are full custom designed and built yachts of the highest quality level available.

Superyachts are operated for private use but are also being chartered. Typical cruising areas are the Mediterranean, Adriatic Sea and the Caribbean. Only few yachts circumnavigate and go on longer journeys to other polar or tropical region. Overall yachts are only sailing about 10% of time. Energy is supplied with diesel generators and main engines for propulsion. In harbour shore power is available however quay space is limited for the larger yachts. Between cruises with the owner or charters yachts are often anchored on designated spaces with generators running. Battery stacks in the range from 1-10 MWh and DC networks onboard are upcoming for peak-shaving, energy buffering and silent modes.

Bearing in mind this brief the idea is to develop a scalable solution that could provide power to anchored superyachts. This may provide power for the “hotel” load and for charging. The problem is threefold:



1. What is and who owns the business case?
2. What is the solution that is scalable, economical and not polluting the horizon?
3. What is the impact on the yacht design and systems?

## 2 Objective

The objective is to develop a business case quantifying the impact, showing a roadmap and develop concepts that trigger future stakeholders.

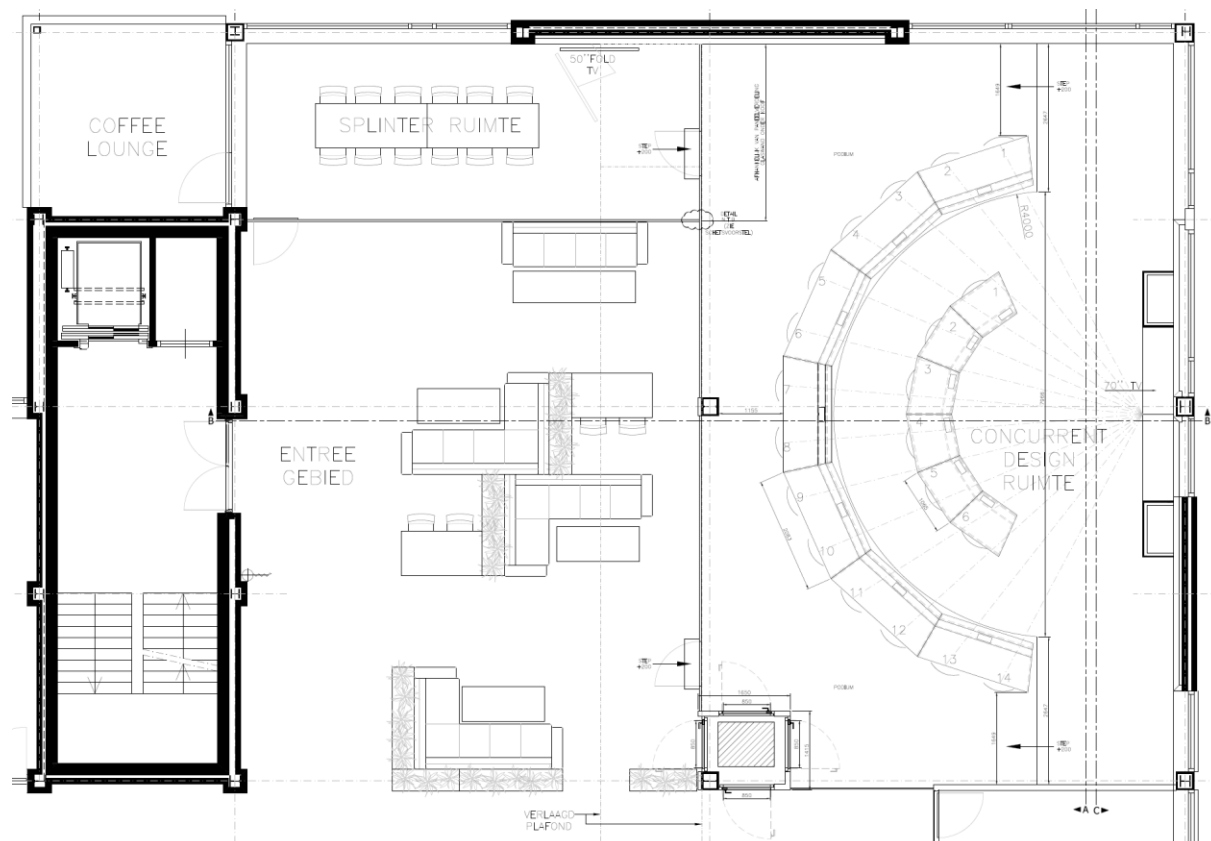
Criteria to adhere to:

- Scalable and flexible so it could be deployed at relevant locations.
- Serving as "hotel load" and charging.
- Clear schematics and 3D models at conceptual level.

## 3 Scope

Scope is to be defined by the student team. Team coach can assist in the process.

For the work De Voogts Concurrent design facility in Haarlem can be used for ideation and interaction with Feadship employees.



The work is part of a larger scope that runs at Feadship. Interaction with is supported.

#### **4 Student selection**

The project typically suits the faculties Mechanical, Maritime and Materials Engineering, Civil Engineering and Geosciences and Technology, Policy and Management.

#### **5 Business coach**

Giedo Loeff will be the business coach the student team. He is a naval architect having a function as Head of R&D at Feadship and responsible for technology development projects for both product and process.

Feadship's Knowledge and Innovation department will be primarily involved. The service department may be involved having a lot of practical know-how. Crew involved with the production of the in-build yachts can be involved for practical handling aspects.

#### **6 Partner companies and research organisations**

The electrical subcontractor is a partner company. TNO a relevant energy network company can be considered.