### **SPACE CAMPUS NOORDWIJK**

Informal digital meeting update campus development



Thursday 19 November 2020

#### **REGION DEAL**

'ESTEC and Space Campus Noordwijk'

### Strengthen interaction with ESTEC and its environment with the ambition to:

- Capitalize on the presence of ESTEC and ensure access and integration
- Stimulate employment in the region
- Improve competitiveness of Dutch space sector and strengthen the eco-system
- Maximize the scientific, societal and economic value of space technology and data

Central Government 15 million (International Meeting Facility)

Province Zuid Holland 8 million Municipality Noordwijk 3 million





#### MUNICIPALITY (€3 MLN)

- Set up and finance campus organization
- > Area vision
- Owner land
- > Account management
- > Acquisition

#### PROVINCE (€8 MLN)

- Set up and finance campus organisation
- Campus scheme (subsidy program)
- Review initiatives Space Campus
- Stimulate to strengthen Space Cluster South Holland
- Relationship with IQ

#### **ESTEC**

- Evolution and integration of Estec is an important condition for success of Space Campus
- Owner' Land (ESTEC II)
- > 120.000 visitors
- Activities such as delegations, Industry Space Day's

#### NSO

- Linking pin to ministry EZ, OCW, I&W
- Linking pin to ESTEC
- Implement NL space policy
- Content assessment initiatives Space Campus Noordwijk
- > Indirect subsidy initiatives







#### **SPACE CAMPUS NOORDWIJK**

Now almost 100% financed by Municipality of Noordwijk and Province of South Holland

Responsible for development Space Campus

- Organization
- > Board
- > Advisory Board



Roberto ter Hark Alderman Noordwijk

**Esther Peters**Director
Space Campus Noordwijk





**Adri Bom - Lemstra**Provincial Executive
Province Zuid-Holland

### **Administrative Consultation**







Franco Ongaro
Director Technology,
Engineering and Quality
ESA, Head of ESTEC in
Noordwijk

# The strength of Noordwijk





- More than 70 space companies
- 4000 professionals
- 6000 students
- Universities (LDE) & International knowledge institutes (SRON, TNO, NLR)
   Colleges and the LIS

### **ESTEC, ESA'S TECHNICAL HEART**







**ESTEC ESA'S TECHNICAL HEART** 



ESTEC NR. 4 IN R&D & SCIENCE IN NL



> 2200 HIGHLY SKILLED TECHNICAL PROFESSIONALS



STATE OF THE ART TECHNICAL (TEST) FACILITIES AND LABORATORIA



120 PHD- STUDENTS, 100 YOUNG GRADUATES



MORE THAN 100,000 INTERNATIONAL BUSINESS VISITORS PER YEAR



ESTEC OPEN DAY: 9000 VISITORS OF WHICH 52% INTERNATIONAL

### **SPACE BUSINESS INNOVATION CENTRE - SBIC**





**START- UPS** 

More than 15 start-ups



Breeding ground for successful companies



#### **EXCLUSIVE EVENTS**

Exclusive access to (international) events



#### **TRAINING**

Workshops, Seminars and Training Courses



Access to the

international ESA Space Solutions Community



- Since 2004 First ESA BIC
- The largest space innovation network in the world
- Supported more than 118 startups
- In 2019: 22 incubates with 128 fte



- Community
- Co-working Space
- Competitions
- Hackathons
- Programs

### SUCCESSFUL COMPANIES THAT CAME FORWARD FROM SBIC





















### **GALILEO REFERENCE CENTRE**







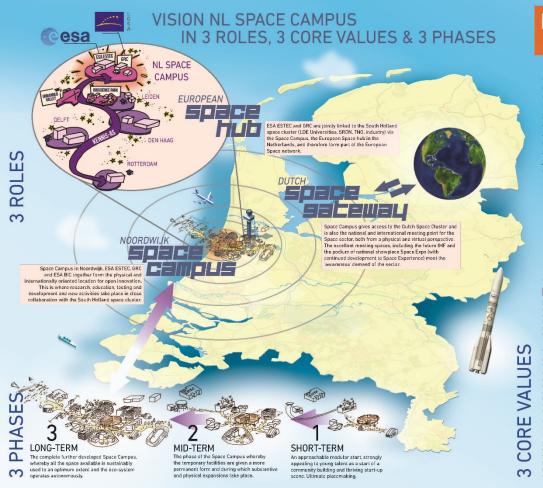
### **SPACE EXPO**





### **COMPANIES ON CAMPUS**

# Mission and vision on Space Campus



#### NL SPACE CAMPUS

"NL Space Campus, knowledge carrier ESTEC and GRC all form an integral part of the campus, the meeting point for the national and international Space Sector. The place where entrepreneurs, education, research, government and the people in the surrounding area can meet and share their space knowledge and implement technology and data. The breeding ground for innovations, start-ups and scale-ups, a haven for young professionals and the birth place of new activities."



#### **FACILITATING**

Space Campus offers an inspiring, open and dynamic environment where people and organisations can feel at home, excel and are facilitated in heir growth and development. Start-ups are facilitated in their journey to scale-up and grow-up and larger companies and organisations find their current and future talent pool on compus.

#### STIMULATING

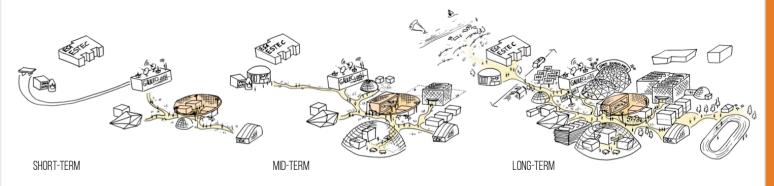
Space Campus is the breeding ground and stimulator of meaning during which people can connect and knowledge is gained. The various groups (space and non-space, upstream and downstream, companies and education and research institutions, national and international government authorities) are stimulated to think cross-sectoral, to challenge each other and connect on existing and rising issues.

#### **IMPLEMENTING**

Space Campus is the specific knowledge application area. Companies and institutions implement the available aerospace technology and data, both jointly and individually. This results in new activities, spin-offs, innovation and new economic players who are able to successfully valorise their products and services.

#### SPACE CAMPUS NOORDWIJK AREA DEVELOPMENT

TO A PHASED DEVELOPMENT



#### START SMALL

APPROACHABLE, MODULAR, FLEXIBLE, SUSTAINABLE

#### EXPANDING

THE TEMPORARY SOLUTIONS GAIN MORE SUSBSTANCE; REMAIN CONNECTED

#### COMPLETE CAMPUS







# What forms a campus?



How do we develop a campus into a successful, active and vibrant ecosystem where innovative companies, knowledge institutes, scientific institutions and citizens can meet, inspire and stimulate each other to make a difference?



A campus is not only made up of hardware, but above all of people. They need to be able to meet each other. That usually happens by chance, the art of organizing coincidence is precisely that.



### **Hardware and Orgware**

- Hardware: land, buildings, facilities, such as labs
- Orgware: combination of meet, share and connect
  - ✓ Innovation program
  - Content and social activities
  - Management of the community and making connections
  - ✓ Guiding starters and start-ups
  - Acquisition and communication

# How to develop the Space Campus

Explained from the three roles

#### **AMBITION REGION DEAL**

AMBITION AS INCLUDED IN REGION DEAL

#### STRENGTHEN INTERACTION BETWEEN ESTEC AND ITS ENVIRONMENT WITH A VIEW TO:

- > Stimulating employment in the region
- Improving the competitiveness of the Dutch space sector
- Contribute to the growth of scientific, social and economic relevance of space (\* also one of the goals of Space Policy Paper 2019)



#### **PHYSICAL LOCATION: START LOCAL**

- > Increase (physical and mental) integration with ESTEC and GRC
- Create the beating heart of the campus (physical and virtual place where people can meet, work and share knowledge) and increase the accessible way for companies to settle on campus.
- Actively bring people together and stimulate them in sharing knowledge and business (community building, account management, master classes, events).
- > Stimulate IoT applications for earth observation, telecommunications and navigation
- Stimulate the manufacturing industry and broaden the eco-system for testing and prototyping (AIT environment on campus) and attract new start-ups and scale-ups in manufacturing and facilitate their 'journey' and growth.
- > Stimulate new business and attract new companies

#### **DUTCH GATEWAY:** GO NATIONAL

- Stimulate and encourage events for NL on campus (networking and community building; together with SpaceNed and NSO).
- > Encourage presence of Dutch companies on campus
- > Make better use of visitors (100,000) from ESTEC and the IMF
- Connect Space Campus with other sectors and businesses.
   User demand centralised and stimulate cross-sector collaboration
- Connect with other communities in NL (e.g. community in Nijmegen, Twente, Wageningen, Groningen, Delft and Eindhoven, but also close to Leiden Bio Science park and Unmanned Valley.

#### EUROPEAN SPACE HUB: ACT AND THINK GLOBAL

- > Strengthen the European Space Hub:
  - Encourage and stimulate the presence of Dutch companies, knowledge and government institutions on campus (NSO, NLR, SpaceNed, LDE).
  - Strengthen the collaboration between the Dutch Space eco-system, knowledge institutes and ESTEC and GRC (for example: stronger connection between LDE universities and Space Campus and ESTEC; also together with companies).Initiate and facilitate EU broad projects and consortia: ESA and Horizons EU programmes (in close cooperation and coordination with NSO and RVO).
- > Take advantage of the flow of international delegations visiting ESTEC and the international SME's working with ESTEC
- > Attract more international companies

# Framework action program

- Start local: regular events on campus (including ESTEC/GRC): monthly meet the neighbours breakfast,
   Space Campus drinks etc.
- > Continue national: together with Spacened, NVR and LDE
- > Expands to international
- > Facilitate the innovation process for space and nonspace companies. (Fablab, AIT facility, IoT application lab / Space data lab, Multi-functional collection building / SME hub, Start-up facilities and support (together with SBIC))
- Support and stimulate networking events on content and cross-sector business
- Innovation 'design thinking' sessions with non-space sector: high level answers on high level questions from other sectors
- Master classes and internet of things sessions (defense, Ground station Dot space, M2sat)
- > Dragons Den Space
- Technology Transfer Programme ESTEC: Space Solutions program ESA (Broker (spin-in / spin-out), Ambassador, SBIC)
- Stronger connection with Bio Science Park and Unmanned Valley in terms of innovation and start-ups (together with SBIC)
- > National and international acquisition of new companies

#### Co-marketing Empower and strengthen each other

- Marketing communication plan (together with NSO) and acquisition plan (together with IQ)
- > Good online and offline communication infrastructure and communication channels
- Website, social media, newsletter, video channel
- > Event calendar
- > Community calendar

#### community building

Space business development

space knowledge development

CENTRES OF EXCELLENCE

marketing communication and acquisition

project development and funding

area development

- > Bridging the gap between knowledge/education and business
- > Strengthen space education and research (together with LDE, Leiden University of Applied Sciences, The Hague, LIS, SRON, TNO, ESTEC, GRC and companies): stimulate and facilitate knowledge sharing between educational and knowledge institutions and industry by means of concrete projects and programmes.
- Develop trainneeships space sector wide (in close cooperation with ESTEC, companies and educational and knowledge institutions)
- Connecting student communities to Space Campus
- Develop project based learning on campus together with companies (e.g. weekend classes)
- Collaboration with the LiS (e.g. with regard to Fablab) and universities of applied sciences Leiden and The Hague (e.g. big data)
- > Earth observation master classes (Dotspace; base/ location + co-marketing)
- Masterclasses IoT application lab (M2Sat; base/ location + co-marketing)
- Masterclasses defence (a.o. With TU Delft, CGI, S&T; base/location + co-marketing)
- > Andre Kuipers foundation and collaboration with Space Expo
- > Pro-active national and international consortia of Dutch and international space companies, educational and knowledge institutions in the Netherlands and Europe by looking for EU funding (Tenderdesk, NSO, IQ, Horizon Europe).
- > Space Campus investment fund: a public private partnership with government and investors (together with NSO, EBDB, companies, investors).
- > Campus support in the field of marketing, finance etc. through interesting deals for members campus

#### **FOCUS ON NL SPACE CAMPUS STRATEGY**

INTEGRATION OF ESTEC AND GRC

STIMULATE AND FACILITATE INNOVATION PROCES

STIMULATING AND FACILITATE COLLABORATION

#### **ACTION PROGRAM NL SPACE CAMPUS**

**COMMUNITY BUILDING** 

SPACE BUSINESS DEVELOPMENT SPACE KNOWLEDGE DEVELOPMENT

MARKETING COMMUNICATIONS SND ACQUISITION

PROJECT DEVELOPMENT AND FUNDING

**AREA DEVELOPMENT** 

## What are we going to focus on?

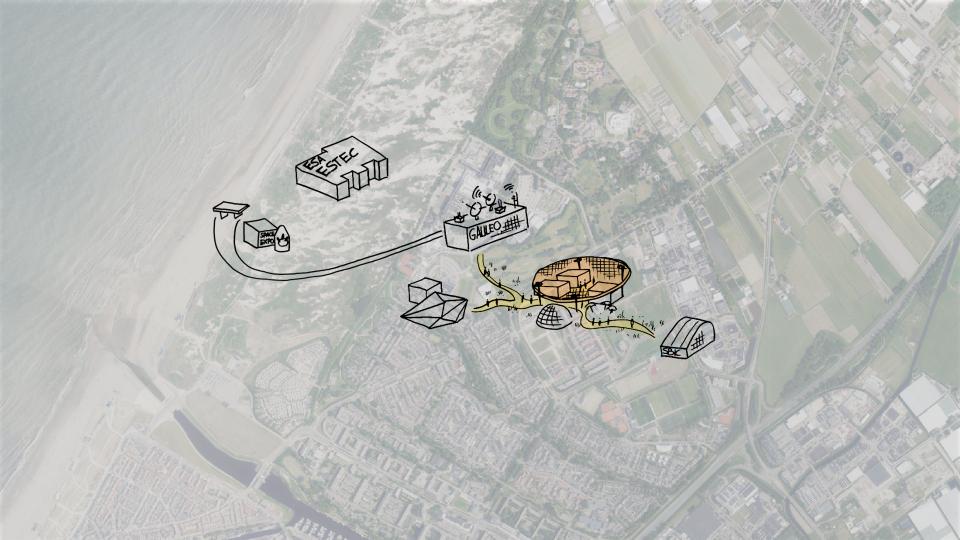
Explained from the three roles and the focus

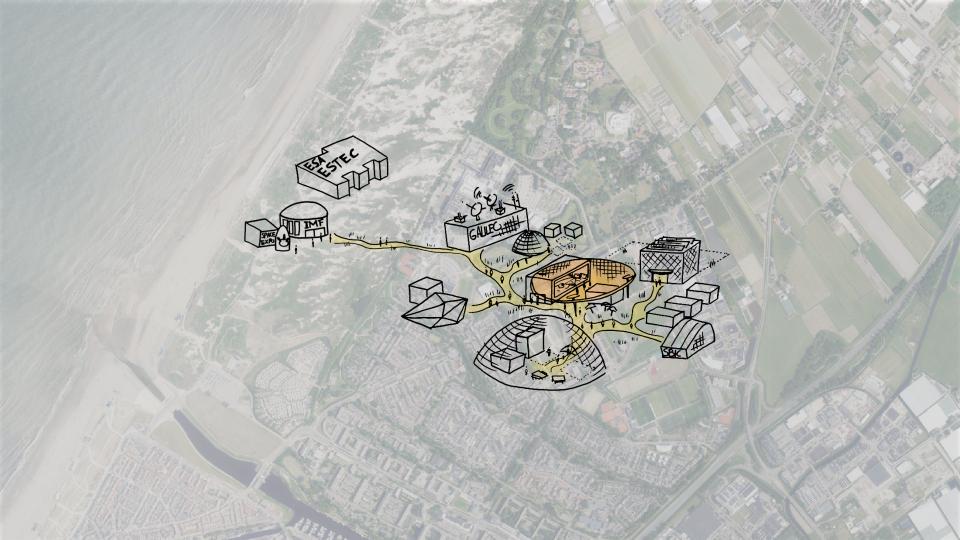


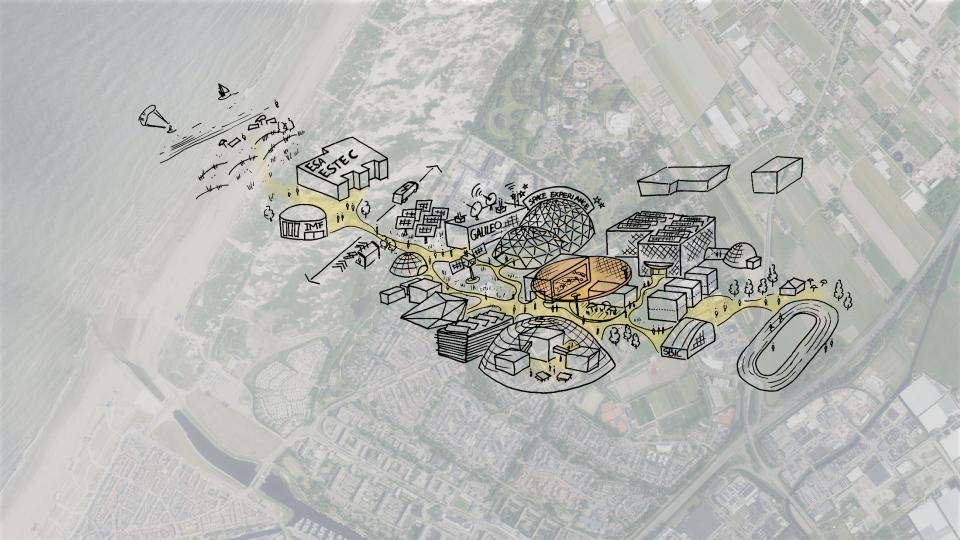
Together with ESA ESTEC, ESA BIC and GRC, the NL Space Campus in Noordwijk is the physical internationally oriented location for open innovation.

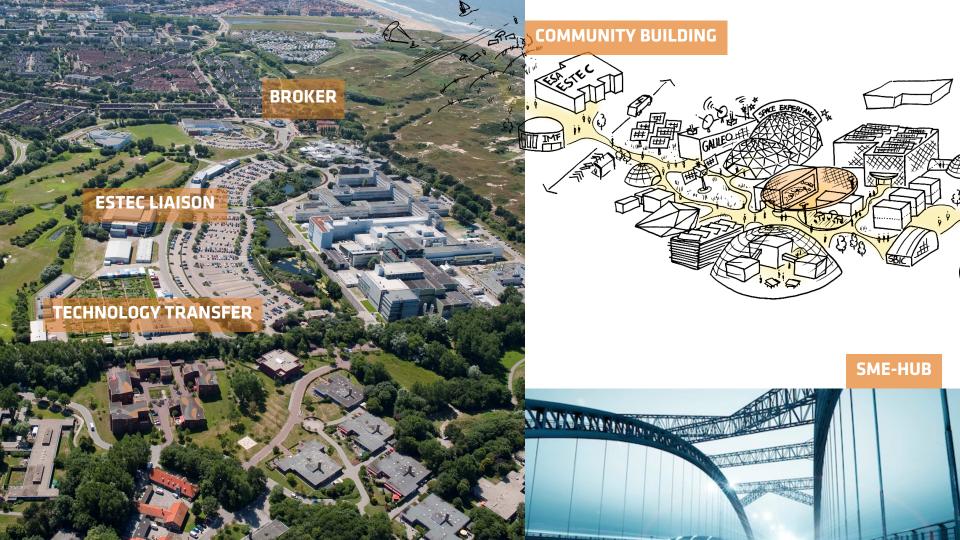
Research, education, testing and development, as well as new business activities take place at the location in Noordwijk.















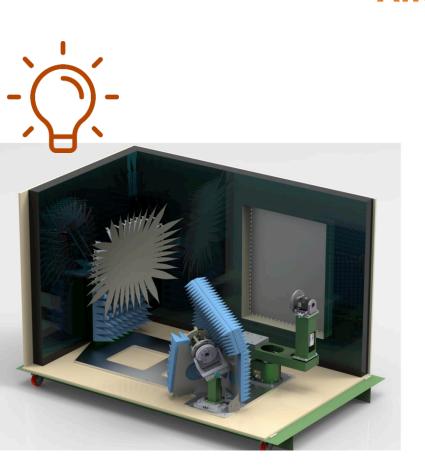






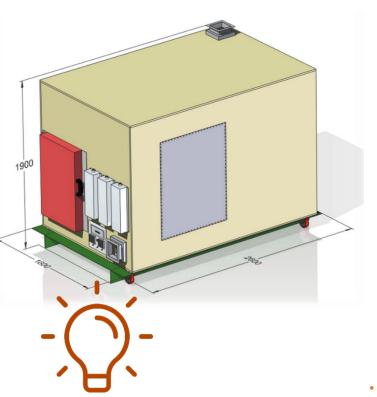


### **Antenna Measurement Facilities**

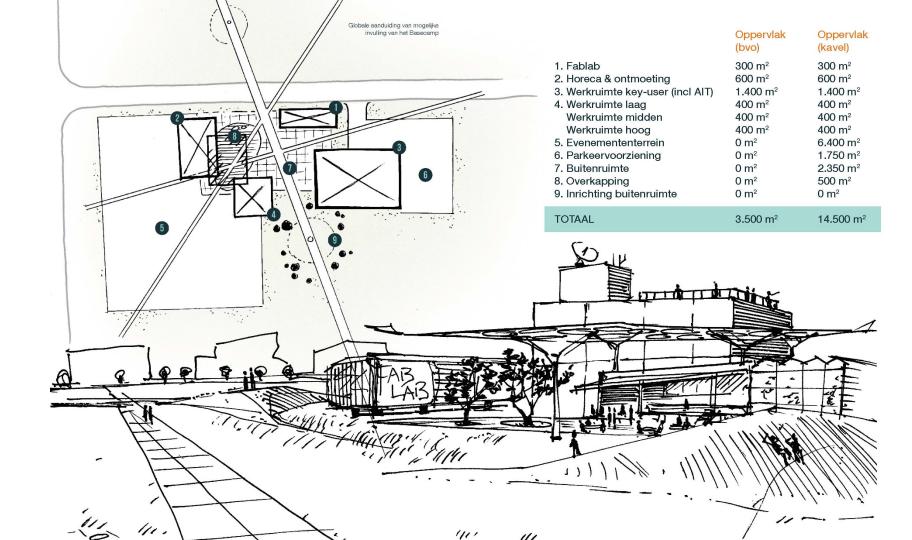


- Space/Defence/Telecom start-ups, SMEs find more interesting to buy an Antenna Test Range as a Services (OPEX) rather than investing large CAPEX into expensive facilities.
- ESA has many Space companies requests that cannot be handled in their ESTEC Site, and need to have associated and certified Labs to divert the demand that cannot be satisfied. The availability of a near-by Antenna Test Range would be very welcome.

## **Antenna Measurement Facilities**



- If the Antenna Test Range is conceived ambitious enough, then a wide Range of potential services for Antenna Measurement could be provided from our Noordwijk envisioned facility, at least:
  - Antennas for **5G applications** (and other Telecom applications)
  - Antennas for **Space applications** (as well as ESA alternative Range)
  - Antennas for **Defence & Aeronautical app**. (also a reference test Centre for Dutch MOD)
  - Antennas for the **Automotive Industry app**. (connected car, automatic car, 5G, etc.)
- Communications industry is growing at rapid pace, thus the need for antenna measurement services is increasing year-over year.





Role 2

# National and international platform for the Dutch sector

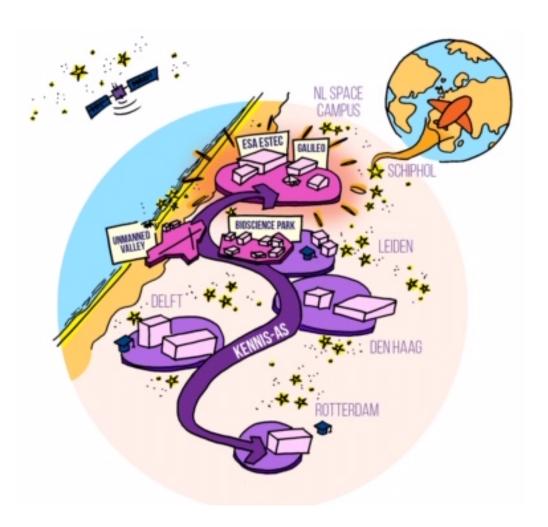
Space Campus opens and connects the Dutch Space Cluster and makes it the (inter)national meeting place for the space sector, both physically and virtually.



### **European Space Hub**

In order to strengthen our position as Noordwijk as the European Space hub, we must join forces as a sector and as a country.

Sharing knowledge, working together on education, research, innovation, business and funding.



# LDE Space Liaison

Stimulate and strengthen cooperation in the field of space and space-related knowledge. Sharing this knowledge based on the high degree of complementarity of these universities as well as in relation to ESA ESTEC, GRC, SRON, TNO, KNMI and other educational and research institutes, companies in the cluster, nationally and internationally.





























# WHAT DOES THE LDE SPACE LIAISON OFFICER FOCUS ON CONCRETELY?

- Work plan LDE Space (incl. funding options)
- Elaborate concrete collaboration LDE ESTEC Space Campus
- Launch and facilitate concrete initiatives (all incl. ESTEC / Space Campus), a.o.:
  - Space minor and/or Space master
  - ✓ Internship / internship program
  - ✓ PHD program

# WHAT HAS BEEN ACHIEVED BY THE LDE LIAISON OFFICER SO FAR

- Establishing the connections at the three universities, ESA ESTEC and the space sector
- Polling of interest for:
  - Space minor and/or Master or other educational options
  - Needs and options to facilitate Internship and Master thesis positions
  - Collaborative research programme

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### **RESULTS SO FAR**

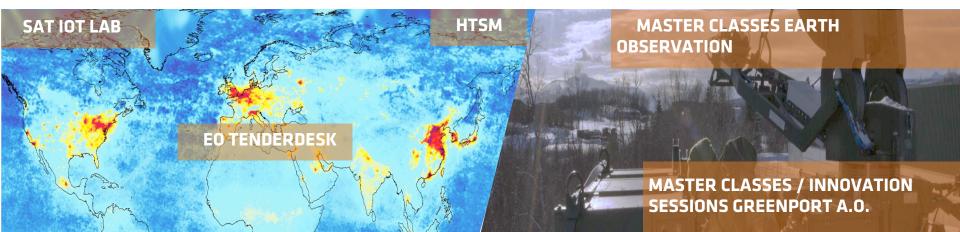
- General interest all elements:
  - Educational programmes should be additional and not replacing current programmes and project
  - Focus on interdisciplinary projects, education and research, use Space Campus, ESA ESTEC, GRC, ESA BIC as host locations
  - Start with honour tracks, broadening the space minor or extra curricular activities
  - · Sector sees most potential in downstream, technology transfer, accessibility of knowledge, expertise and data
- Challenges:
  - Finding ways to collaborate and create 'add on' without (too much) additional resources
  - Finding collaboration utilizing all sites and involved parties;

### **FORWARD PLAN**

- Support the Space minor in work by LR and STRW to include sector and EUR
- Continue to investigate in a broader space minor programme and honour tracks
- Involve students from the three universities for a workshop to get their input
- Organise a LDE/SCN/ESA Space Summer School as test case for interdisciplinary projects and education
- Start a central 'space market place' for finding internships, master thesis etcetera
- Facilitate the definition of a shared research programme between the universities

## STIMULATE CROSS SECTORAL COLLABORATION

Different blood groups (space and non-space, upstream and downstream, companies and educational and knowledge institutions, national and international governments) are stimulated to think cross-sectoral and to challenge and connect each other around current and important themes and issues.



# **Bollen Next Generation**

From the Greenport Dune and Flower bulb Region and the Space Technology Cluster, there is a need to mobilize resources and capacity to use a technology leap to strengthen the region in the field of future-proof bulb-growing. The public-private partnership Bulb Revolution 4.0 is already working together in the field of precision agriculture and data management to make bulb-growing sustainable with a solid economic basis. An opportunity to work together in this project.

#### **Cooperation of:**

Universiteit Wageningen

CGI

Space Campus Noordwijk

ebdb

SatIoTSpace

Blackshore

Groundstation dot space

M2Sat



# **Netherlands Space Data Hub**

- An HUB carrying great ideas around Space and Data
- A HUB of Start-ups and SMEs linking with Government and Academia
- A Link between Space data producers with Society's demands through cost effective novel solutions
- A place to integrate and create new solutions with space data using tools of 4th Industrial Revolution: Big data
- A
- Blockchain
- IoT/ Sensors
- A great place to work!



# **GNSS CENTRE OF EXCELLENCE**

Where business, data and knowledge comes together













#### **Our Services**

#### **Risk and Research Service**

#### **GNSS** insights

**GNSS Risk Map GNSS Performance Prediction** 

#### **Commercial GNSS Research**

GNSS impact assessment GNSS quality assessment

#### **Certification & Standardisation Service**

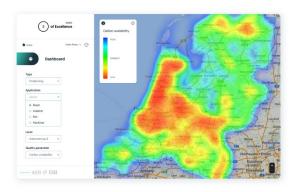
#### Standardisation

Consolidated standards Standard selection & definition Awareness & dissemination campaigns >

#### Certification

Selection of certifying body Certification process guidance Certification testing suppor

#### Risk and Research Service GNSS insights



#### **GNSS Risk Map**

GNSS Risk Map as a service

Thank you for selecting the Centre of Excellence's realtime GNSS Risk Map. This offers a realtime insight in the quality of the various available satellite positioning services. The service is more than showing the GNSS quality, it is made dedicated to your needs.

Preview dashboard

#### Therefore we kindly ask you to make a selection:

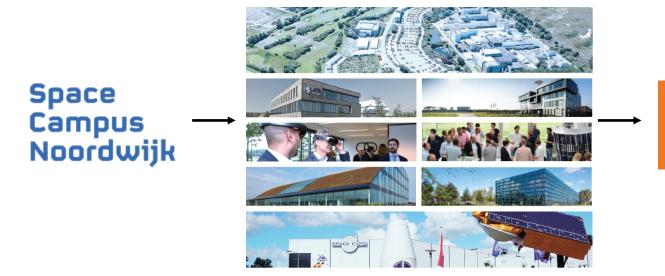
gion		Application	Duration
The Netherlands	~	Autonomous L2 ~	12 months ~

Based on your selection the monthly fee is: 6.250 € incl. VAT.

Subscribe

# Branding and positioning

# **REBRANDING SPACE CAMPUS**









# SPACE CAMPUS NOORDWIJK INTERNATIONAL EXPLORATION



Goal: sharpening the profile, proposition and market approach of Space Campus

- Analysis of competing European Space Hubs
- Analysis of potential companies and organizations for Space Campus
- Effect Brexit and Covid in a positive sense for market approach and potential parties

# Resume....

#### TOWARDS PHASED DEVEOPMENT

#### 2020: THE BASICS

(ESTABLISHING THE FOUNDATION AND SHARED VISION))

#### THE FUNDAMENT (UNTIL OKTOBER)

- > Mailinglist / address file foundation
- Strengthen cooperation LDE universities and explore future cooperation
- > Shared mission/vision
- > Shared area vision
- > Business case for the start of the physical heart of the campus

#### JOINT STRATEGY (AS OF NOVEMBER)

- Governance foundation (board of directors, advisory board; staffing and amendment of articles of association)
- Multi-year plan Space Campus 2020-2023
- > Decision-making area vision
- > PvE Basecamp
- Unsubscribe challenge activate open field
- > Informal reconnaissance 'remove fence
- Start community building & communication
- > Facts & figures Space campus
- > Branding and positioning
- Research Bryce (sharpening market approach)
- > Submit project EBDB
- Start LDE liaison
- Recruitment commercial program manager and community manager
- Start master classes Dotspace and Sat IoT application lab
- Innovation session Space Campus -Greenport
- Starting up EU fundraising (together with Tenderdesk Dotspace)

#### 2021: START-UP

(VALUE ADDITION, CONTENT GETS FORM, PROJECTS)

#### ORGANISATION

Start of commercial program manager and community manager

#### AREA DEVELOPMENT

- > Market consultation building developers Basecamp
- > Start activating public space
- Opening (temporary) physical location heart (Fablab, flexspaces, 'Starbucks')
- > Determine real estate entity
- > Tendering design-build-operator Basecamp
- > Design and permit procedure Basecamp
- > Further explore possibilities removal fence / decentralized security

#### COMMUNITY BUILDING

- > Communitybuilding plan
- > Communitybuilding (regular events and two substantive events)
- Strenghtening collaboration with SpaceNed
- > Collaboration with students

#### BUSINESS DEVELOPMENT

- > Innovation 'design thinking' sessions
- Dragon's Den Space
- > Continue collaboration Space Campus Greenport
- > Work plan Space Business Development
- > Risk tool map GNSS CoE
- > Start ESA Broker function
- > Business incubation and open innovation activities
- > Explore other forms of funding and partnerships
- Support services scale-ups

#### KNOWLEDGE DEVELOPMENT

- Concrete education and research program (master classes Dotspace, M2sat, defence etc, starting with LDE minors)
- > Developing traineeships
- Strengthen contacts with universities of applied sciences The Hague and Leiden, Twente, Wageningen, Groningen,

#### MARKETING & ACQUISITION

- Marketing communication plan (incl. event planning)
- > Acquisition plan
- > Website customisation
- > Strengthen branding Space Campus
- > Facts & figures regional and national

#### EVENTS & EDUCATION

- Summerschool LDE / Space Campus
   (?) (in knowledge development)
- Masterclasses, hackatons and design thinking sessions (in community building)
- innovation sessions (in business development)
- business case Space Data Hub (at business development)
- > ISDs (in business development)
- ESA ESTEC open day (at PR communication / marketing at Community building)

#### 2022: START-UP TO SCALE-UP

- Further expansion placemaking and activation open field
- First modules Basecamp (start of construction)
- AIT facility on campus (relocation of existing company to Noordwijk)
- > Strengthen international acquisition
- > Centre of excellence
- Partnerships education and research NL and EU
- > EU funding
- Expand and strengthen community building
- Strengthen Space Business
   Development (content programming)
- > Expand Space Knowledge Development to national
- > Participation in international events
- Activities around Leiden European City of Science

> ...

#### 2023: START-UP TO SCALE-UP

- > Opening IMF
- Basecamp realized
- Facilities at Basecamp are being expanded
- Education program on Space Campus
- > Business support program
- Attract attractive international player
- > GNSS CoE
- Other Centre of Excellence (Greenport e.g.)

>

# Area vision and business case Basecamp

### THE MOST IMPORTANT INTERVENTIONS PROPOSED

- Improving accessibility;
- Activating the area;
- A central located Basecamp;
- A physical connection to ESA ESTEC;
- Providing facilities and buildings for the less fortunate;
- A flexible interpretation of the current zoning plan;
- The use of public funds from the Region Deal;
- Providing an assessment framework for the use of public funds and creating an investment agenda;
- Maintaining direction and long-term commitment to the campus goals from the public parties;
- The leasehold model, as an appropriate financial model for the development;
- A choice must be made about the real estate entity and ownership of the Basecamp (buildings)
- Entrepreneurs indicate a need for affordable short stay facilities (for students, (international) trainees, young starters to bridge the gap), which is further explored in the PoR and then returned to the city council.

### **SPATIAL PRINCIPLES**

### **Phased development**

- Phase 1: activation of the open field
- Phase 2: the Basecamp
- Phase 3: further development into a complete campus

# Activation of the open field



# Activation of interested parties and the area





Examples of
how to
activate the
open field, and
how to
stimulate
interaction and
coincidental
meetings











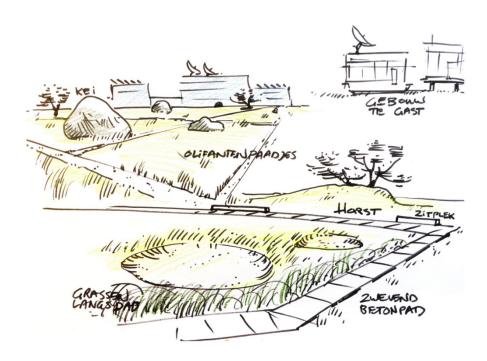




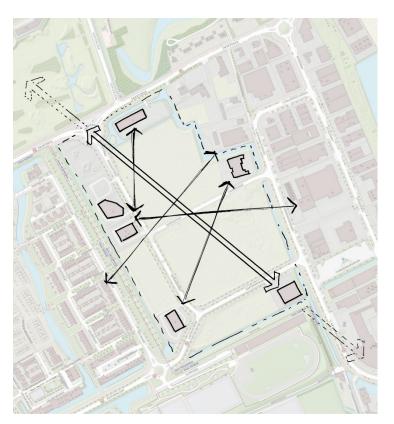








Impression of activating the open field.



Indication routing and sub-routes through the open field.



### Activation of the open field

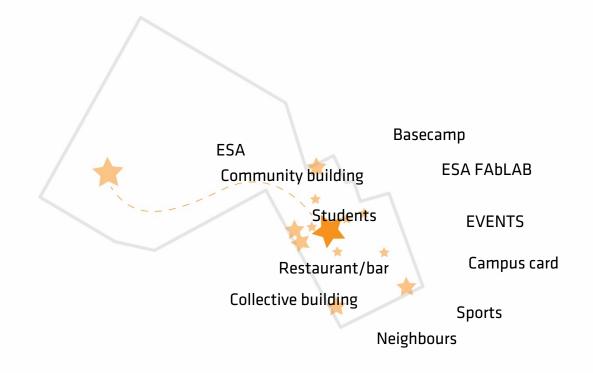


#### Most important principles:

- Design of public space that encourages interaction between people, a landscape plan to connect
  existing buildings by constructing paths, seating areas, greenery with objects for sports and games,
  matching the Space experience (high-tech innovations and advanced materials).
- Making a (temporary) event site possible, multifunctional use, connection points for electricity, water and possibly sewerage;
- Temporary 'tent camp' with food trucks or restaurant, indoor and outdoor seating and workplaces, a central meeting place for the campus community and its visitors, connection points for electricity, water and possibly sewerage. The starting point is that entrepreneurs bring their own tent, portacabin or other accommodation;
- Sharing of the mobility system including e-bikes and scooters.

# The Basecamp

## The Basecamp



### **Phase 2: The Basecamp**



Essential ingredients according to the stakeholders:

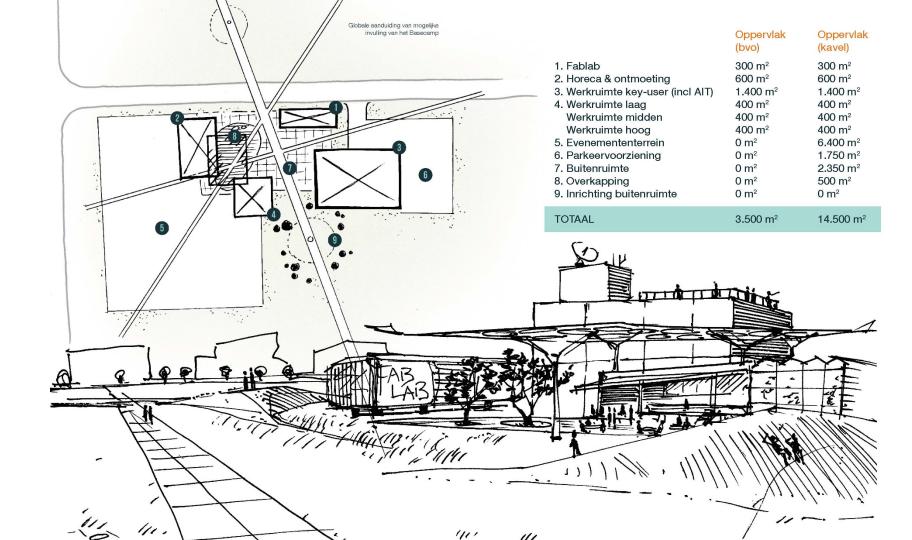
- A space where products can be developed and where test facilities can be shared with each other and others.
   A restaurant/bar with space for meeting places as a central meeting place that is open to the public;
- A restaurant/bar with space for meeting places as a central meeting place that is open to the public;
- A central square, possibly with a canopy, where people are invited to meet outside the buildings which
  enhances the vibrancy of the area;
- Spaces to share knowledge, such as a classroom with facilities to organize lectures & workshops for approximately 30 people;
- A flexible business collection building with spaces for companies to rent out, based on different price ranges;
- Space and facilities (water/electricity/drainage) to organize events that contribute to the branding and reputation of the Space Campus. In part, this can already be combined with the construction of an event site in step 1.

# Indication of location Basecamp



# **Reservation agreement / initiative Burgland**















References for materialisation, quality and appearance of the base camp























De Pionie









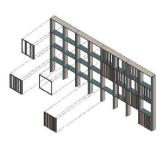












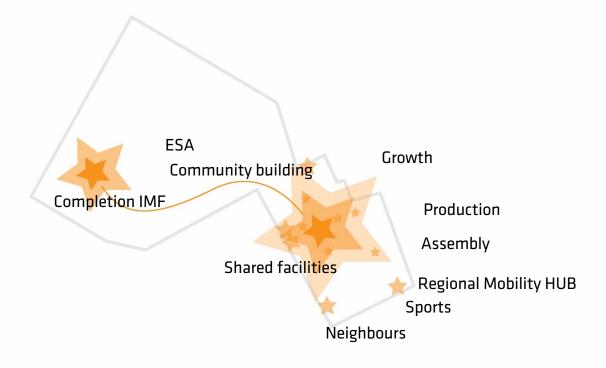
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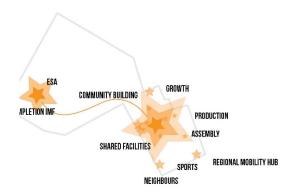
## **Connecting IMF with Basecamp**

### Together the heart



## Phase 3: Further development into a complete campus

- Outside the Basecamp, companies and organizations are attracted to the fact that they are able to realize their own accommodation independently. It is important that these companies and organizations fit within the rules of the campus and offer added value to the Space Cluster.
- It is important to guarantee sufficient flexibility in the land allocation and positioning of companies and activities.
- Integration with ESTEC is taking more and more shape (direct access to the IMF and exploring decentralized security).
- When the Basecamp has sufficient mass and its own attractiveness, and
  when the activities of the Space Campus take more shape, it is obvious
  that several parties will want to establish themselves here. It is important
  that they feel connected to the campus, become part of the campus
  community and make an active contribution to it.













## Rules of the game

## Rules of the game Area Vision

- A growth model that gradually scales up activities, interventions and investments. This means a
  dynamic and adaptive development from the demand and needs of the campus and its users.
- Real estate development is demand-driven and is at the service of Space Campus development
  and not primarily at the service of maximising profits from issuing lots or renting out spaces.
- Using light and reusable materials as much as possible, inspired by the Space theme or a technical look & feel.
- Furnishing outdoor space to match informal and inviting look & feel: open and playful and active landscape (no hedges or bordered plots).
- Parking as clustered and out of sight as possible.
- Companies that depend on heavier logistics are located in the periphery as much as possible.

## Rules of the game Basecamp

- The Basecamp is the central heart of the campus, a modular development that can grow over time.
- It consists of buildings and public space with facilities that are multifunctional for the Space community (such as Fablab, catering, meeting places).
- Knows workspaces that can be rented flexibly by parties, easily accessible, pay according to use and pay according to ability.
- Is an easily accessible starting point for companies that can continue to develop to a place elsewhere on campus.
- Has a strong public direction in the development and may eventually grow into a fixed value within the Space community.

# Rules of the game for residents and stakeholders of the campus

- Incumbent companies and institutions (including ESA Bic, Space Expo, AVATAR, dotSpace), education and science (LDE universities and SRON), organizations (such as SpaceNed) and new parties who would like to establish themselves or external parties who would like to make use of the facilities on the campus must contribute to the campus concept and to strengthening the Dutch Space Cluster. This is expressed in the following aspects, among others:
  - Actively deploy knowledge, expertise and network and play an active role in the organization of events and network meetings;
  - Making use of collective facilities such as testing and production facilities;

# Rules of the game for residents and stakeholders of the campus (continued)

- Are willing to share their own facilities with others;
- Do not have their own catering facilities but make use of the facilities in the Basecamp;
- Contribute to the vibrancy, desired atmosphere and image of the campus by using the Basecamp as much as possible;
- Have access to ESA ESTEC (badge for the campus community);
- Have a campus membership with discounts and privileges (to be developed by SCN).

# Financial principles

## Financial principles

- A quick start is necessary. Interested parties want to start implementation in the short term and this requires
  minimizing external dependencies.
- A balanced use of public resources. The financial study shows that without public contributions the Campus will
  not get off the ground.
- From the point of view of the Campus's value concept, the focus is on initiating cash flows and not on realizing transactions. Value arises from the use and growth of activities on the campus.
- Real estate development is demand-driven and serves Space Campus development. The development of land and real estate is therefore not an end in itself but a means to achieve the objectives and ambitions.
- Make sure that revenues from campus development remain secured within the area and can be used for the benefit of the campus's objectives. It must be prevented that revenues and earning capacity "leak out" at an early stage.

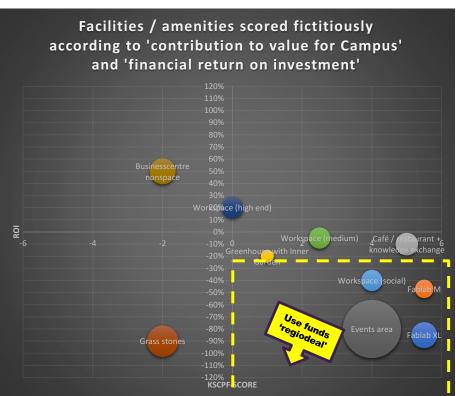
## **Deployment of Region Deal funds**

The resources from the Regiodeal are (partly) used as a flywheel for the development of the Space Campus. For example as pre-investment or covering unprofitable expenses for the Basecamp, as well as for substantive initiatives that stimulate campus development and otherwise do not get off the ground. Public financing/contributions help companies, that otherwise will not be able to establish themselves on the Space Campus.

### **Assessment frame work**

- The use of public funds should therefore focus on physical development:
  - Making the Basecamp possible;
  - The elements/functions/companies/organizations that contribute most to the goals of the Space Campus;
  - The elements/functions/companies/companies that are valuable to the Space Campus but will
    not get off the ground without public financing/contributions because they have an unprofitable
    top or will otherwise not establish themselves on the Space Campus.
  - In addition to the physical development, public funds should be used for the organization of the foundation (content programming, community building, business development and knowledge development). This is also to provide users of the campus with a 'safe haven' because continued investment is made in campus development.





## **Calculation and explanation**

- BUCA is independent of organisation/ownership
  - Assumes a ground lease (cost recovery for the municipality)
  - Assumes a market approach
  - Is based on organising efficiency and effectiveness (healthy competition and challenging the market) regardless of organisation/ownership.
- Concerns an indicative business case based on known information, there is no contract or agreement of intent lying underneath.
- BUCA fits the level of abstraction of the area vision and available information.
- BUCA assumes the initial investment for the construction of facilities for the activation of the field and the Basecamp. This will be offset by income from renting/use.

## **Business case**

#### BASECAMP: UITKOMST BUSINESSCASE

#### EIGENSCHAPPEN EN AANVANGSINVESTERING

Bouwstenen	Oppervlak (bvo)	Kavel- oppervlak	Aanvangs- investering
VASTGOED			
Fablab	300 m²	300 m <sup>2</sup>	420.000
Horeca&ontmoeting	600 m <sup>2</sup>	600 m <sup>2</sup>	680.000
Working space key-user (incl. AIT)	1.400 m <sup>2</sup>	1.400 m <sup>2</sup>	1.760.000
Working space low	400 m <sup>2</sup>	400 m <sup>2</sup>	480.000
Working space medium	400 m <sup>2</sup>	400 m <sup>2</sup>	540.000
Working space high	400 m²	400 m <sup>2</sup>	580.000
BUITENRUIMTE EN TERREININRICHTING			
Evenemententerrein	0 m <sup>2</sup>	6.400 m <sup>2</sup>	90.000
Parkeervoorziening	0 m <sup>2</sup>	1.750 m <sup>2</sup>	110.000
Outdoor space	0 m <sup>2</sup>	2.350 m <sup>2</sup>	70.000
Covered space for events/activities	0 m <sup>2</sup>	500 m <sup>2</sup>	230.000
Public space	0 m²	0 m <sup>2</sup>	20.000
Landmark	0 m <sup>2</sup>	0 m <sup>2</sup>	PM
TOTAAL (excl. btw & pp. 2020)	3.500 m²	14.500 m²	5.000.000

#### WAARDE 10-JARIGE KASSTROOM

WAARDE 10-JARIGE KASSTROOM					
Waarde	Kasstroom - Kasstroor				
kasstroom	/-	+			
30.000	-200.000	120.000			
310.000	190.000	500.000			
870.000	700.000	1.040.000			
220.000	180.000	260.000			
330.000	260.000	400.000			
580.000	580.000	580.000			
-	-	-			
-	-	-			
-	-	-			
-	-	-			
-	-	-			
2.300.000	1.700.000	2.900.000			

#### RESULTAAT BUSINESSCASE

Netto	Resultaat	Resultaat
resultaat	-/-	++
-390.000	-620.000	-300.000
-370.000	-490.000	-180.000
-890.000	-1.060.000	-720.000
-260.000	-300.000	-220.000
-210.000	-280.000	-140.000
H	Kostenneutraa	l
-90.000	-90.000	-90.000
-110.000	-110.000	-110.000
-70.000	-70.000	-70.000
-230.000	-230.000	-230.000
-20.000	-20.000	-20.000
-	-	-
-2.600.000	-3.300.000	-2.100.000

ROI		
	-93%	
	-54%	
	-51%	
	-54%	
	-39%	
	0%	
	-100%	
	-100%	
	-100%	
	-100%	
	-100%	
	0%	
	-52%	

## Region Deal resources

#### **REGION DEAL RECOURSES**

ORGWARE & HARDWARE

STRATEGICAL AREA VISION
HARDWARE

STRATEGIC MULTI-ANNUAL PLAN 2020- 2023

ORGWARE

ORGANISATION SPACE CAMPUS

INVESTMENT IN DEVELOPMENT BASECAMP

CAMPUS SUBSIDY SCHEME PROVINCE

## Investments already made

Province (PS decision) and municipality (council decision) have set **aside 8 and 3 million** respectively for the Region Deal 'ESTEC and Space Campus Noordwijk' (2018).

In recent years, the province and municipality have used funds from the Region Deal for this purpose:

- The hiring of a quartermaster
- Setting up and staffing the Space Campus Noordwijk foundation (incl. budget for the campus organisation for the period 2019 2023).
- Office space for the foundation
- Necessary studies including previous explorations to arrive at a spatial development vision, this underlying area vision and implementation programme.
- Co-financed two projects that enhance the quality of the campus (Ground Station DotSpace and AVATAR)
- Space Campus participated in four international trade fairs and an economic mission Space to Bremen.

The current state of the **Noordwijk reserve** is approximately **2 million euros**.

The current state of the **reserve of the province of Zuid-Holland** amounts to approximately **6.7 million euros**.



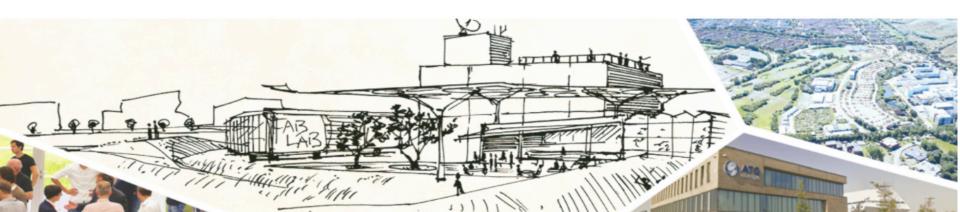
## **Investment in the Basecamp**

**Costs:** 

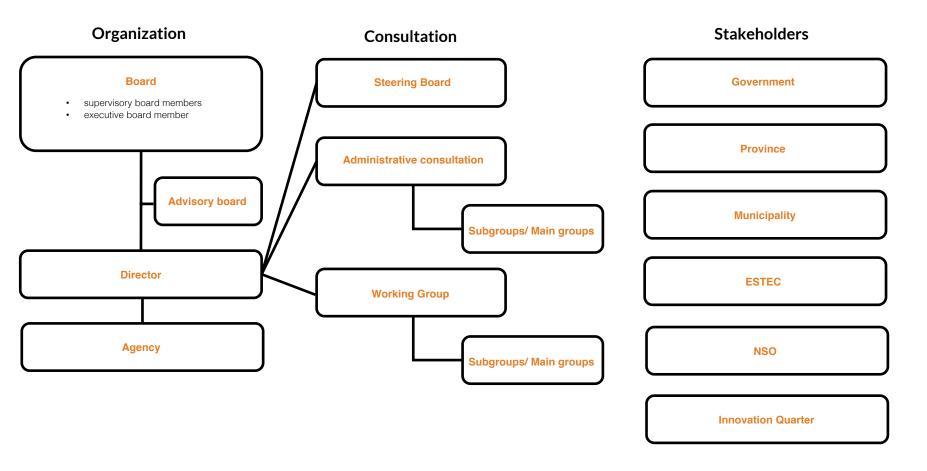
Investment in Basecamp 5 million

**Coverage:** 

Contribution province Zuid Holland 3,6 million
Contribution municipality Noordwijk 1,4 million



### Organization scheme, consultation & Stakeholders





#### **SCN Foundation**

- Executive Board member
- Managing director Advisory board

Consultation: the heart

Stakeholders and financers: the fundament

SCN foundation: responsibility



#### **Financers**

- Province
- Local authority
- Advisory board
- Financers
- Partners

#### Consultation

- Steering board
- Administrative consultation Working group
- Team (s)



#### Stakeholders

- Governement
- Province
- Municipality
- ESTEC
- NSO
- IQ

## **Hotspots Innovation Delta Zuid-Holland**

Mapping the court spots to strengthen the positioning of the technology industry in South Holland by Innovation Quarter, Economic Board South Holland, Holland Innovations.

NL Space Campus Noordwijk

Unmanned Valley Katwijk

TPY (hightech materials ind.) Den Haag

World Horti Centre Naaldwijk

Quantum Campus Delft

RoboValley Delft

Mechatronics ICS Schiedam

Makersdistrict Rotterdam

Leerfabriek Dordrecht

CIV Smart Technology Gouda



# Other action perspectives development campuses Zuid Holland

- Leiden Bio Science Park
- TU Delft Campus
- Erasmus MC Campus
- Biotech Campus Delft
- Policy Campus Den Haag

On behalf of Zuid Holland, Ministry of Economic Affairs and Economic Board Zuid Holland













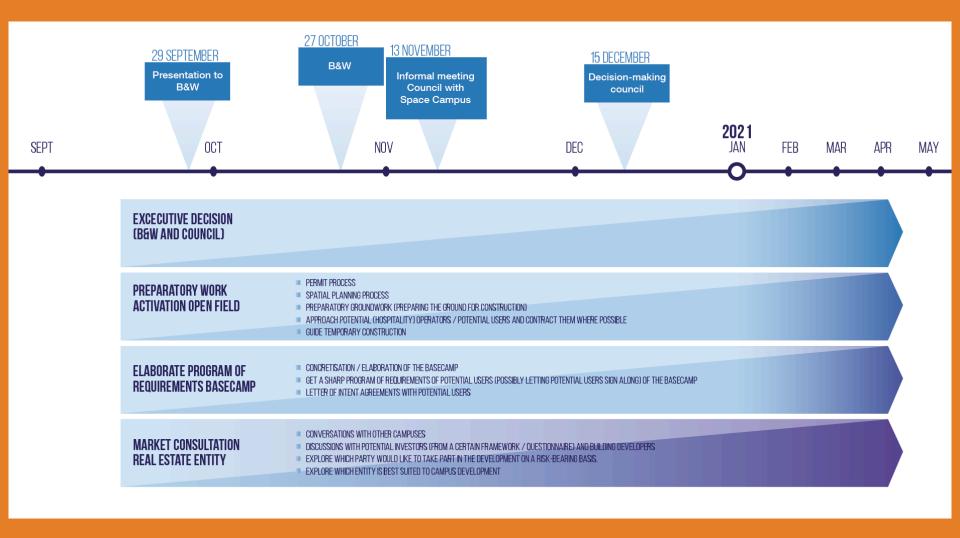
# Implementation agenda

## Implementation agenda

The area vision, rules of the game and financial strategy NL Space Campus has a level of abstraction appropriate to an area vision. No detailed plan has been drawn up and the business case is indicative but based on realistic starting points.

For the implementation of the area vision, parallel tracks will be followed:

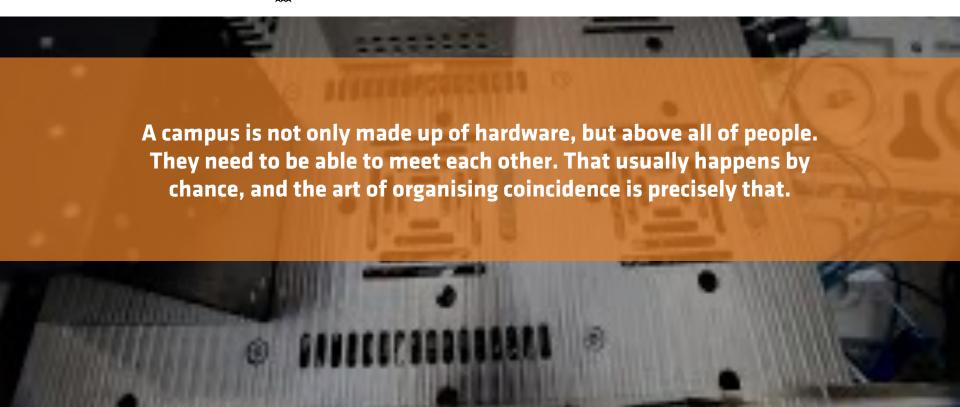
- Activating the open field, enabling temporary facilities, the event site.
- Program of requirements Basecamp
- Market consultation



The

# mmmmm\* Ingredient

## of a successful campus



## **Campus organization**

Supporting the transformation of the Space Business Park into a Space Campus requires a strong, central organization that can bring together all partners and stakeholders, but also lead them to joint action. A central point of contact with sufficient mandate and authority, and with a strong and inspiring director as the face of Space Campus.

The campus organization is the driving force behind the further development of Space Campus, which develops and implements initiatives, programs and activities together with stakeholders and partners, creates new collaborations, strengthens the community and attracts new business activity. But it is also a spider in the web and a point of contact for all (future) companies, institutions, residents and stakeholders on and around Space Campus.

The current size of the campus organization is 1.6 FTE Managing director (1 FTE)

#### Hired:

Management assistant (0.2 FTE Communications consultant (0.2 FTE) Account management and Strategic advice (0.2 FTE).



## We are expanding our team

#### **Community Manager**

Creative all-rounder in marketing, communication and community management with a pioneering entrepreneur mentality. A community manager who combines being a (strategic) advisor and a pragmatic connector and organizer.

#### **Program manager**

A Commercial program manager that combines being an entrepreneurial account manager and business developer with knowledge of and or experience with the high tech (space) world and innovation processes.







## Formation build-up over the coming years

Team Campus organisation	FTE	FTE	FTE	FTE
Expected size	2020	2021	2022	2023
Director	1,0	1,0	1,0	1,0
Commercial program manager	0,2	1,0	1,0	1,0
Communitymanager	0,2	1,0	1,0	1,0
Management-assistent	0,2	0,4	0,6	0,6
Totaal	1,6	3,4	3,6	3,6

## Investments already made

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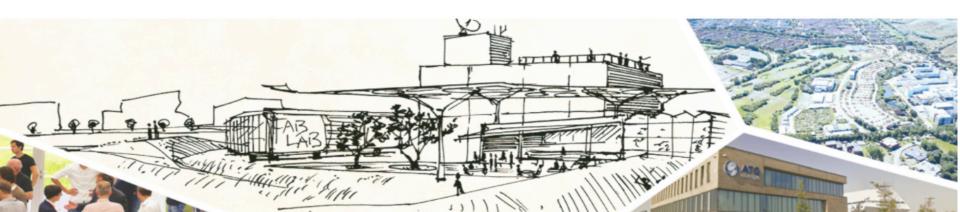
## **Investment in the Basecamp**

**Costs:** 

Investment in Basecamp 5 million

**Coverage:** 

Contribution province Zuid Holland 3,6 million Contribution municipality Noorwijk 1,4 million



Budget	2019/2020	2021	2022	2023
Staff (team)	140.000	305.000	320.000	327.000
Staff (hired)	125.000	-		
Employer charges	13.800	34.000	40.000	46.000
(WW, social charges):				
Team development	-	5.000	5.000	5.000
Housing	36.000	30.000	40.000	40.000
Office costs (incl IT)	50.000	20.000	30.000	30.000
Depreciations		2.500	2.500	2.500
Marketing and PR/communication	40.500	30.000	40.000	50.000
Community and events	95.700	30.000	40.000	50.000
Space business development	-	20.000	30.000	40.000
Space knowledge development	-	30.000	30.000	30.000
Travel / international	-	10.000	20.000	20.000
Other (undefined)	-	15.000	15.000	15.000
Total	501.000	531.500	612.500	655.500

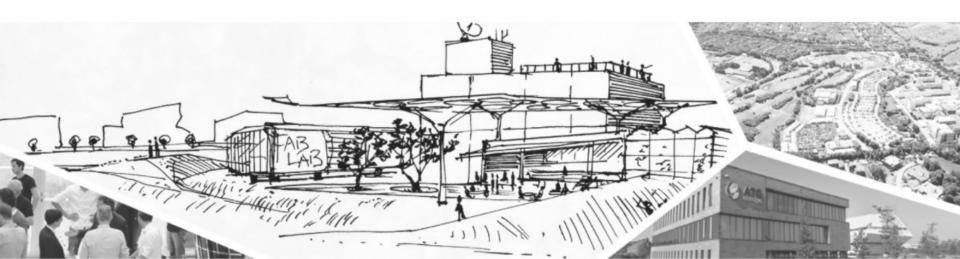
## **Budget coverage**

This budget has the following potential coverage: - grant contributions municipality Noordwijk and Province Zuid-Holland - EBDB partner contribution - In kind contributions NSO, ESTEC

Revenues	2019/2020	2021	2022	2023
Municipality Noordwijk	255.500	170.000	170.000	170.000
Province Zuid-Holland	255.500	170.000	170.000	170.000
Total	511.000	340.000	340.000	340.000

## **Actions for the Advisory Board**

- Expansion of the Board (Chairman)
- Expansion of the Advisory Board (suggestions)
- Amendment of the articles of association
- Communicating governance on website
- Schedule meetings for 2021





Our idea of the ideal campus is a combination of meeting, sharing and connecting. Preferably also in that order.

This creates trust to share ideas and exchange information. Learning to be vulnerable in a business environment, making connections faster and real innovation possible.

**The way** you connect to the ecosystem makes all the difference - and on a campus where this secret ingredient is used, it's just so much easier. Let's use this ingredient!

