

# NL SPACE CAMPUS



**ROEM II Event, Monday 1 February 2021**

# PROGRAM BREAK OUT HOT SPOT SPACE CAMPUS

- Explanation Hot Spot NL Space Campus (15 min)
- Mentimeter, chat and discussion Draft Action Agenda (1.15 hrs)
- Back to the central event: keynote Piet Hein van Mulligen (30 min)
- Summary Report (IQ with input from hotspots: a week after the event)



# ROLES DURING THE BREAK OUT

- Organizing parties (this event, draft Action Agenda, including prioritisation):
  - ✓ Innovation Quarter
  - ✓ High Tech Platform West NL
  - ✓ EBZH
- Moderator Break Out (Esther Peters, Space Campus)
- Mentimeter (Stephanie Riffo, Berenschot)
- Chat (Peter Batenburg, Space Campus/LDE)
- Summary Report (IQ with input from hotspots)
- Input and discussion: mentimeter, chat, in person (everybody)

# WHAT IS THE PUPOSE OF THIS BREAK OUT SESSION?

Draft Action Agenda Technology Industry & increase the visibility Technology Industry Zuid-Holland

- Consultation of each Hot Spot:
  - ✓ Do you recognize the approach of the Hot Spots? Do you miss hot spots?
  - ✓ Are they on the right track with this Draft Action Agenda?
  - ✓ Do you recognize the Draft Action Agenda and the Action Lines? Do we see an extra product chain?

# NL SPACE CAMPUS



**ROEM II Event, Monday 1 February 2021**

# 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
- Transformation business park into campus and international oriented location for open innovation, together with education, research, businesses, government.

Central Government	15 million (International Meeting Facility)
Province Zuid Holland	8 million
Municipality Noordwijk	3 million









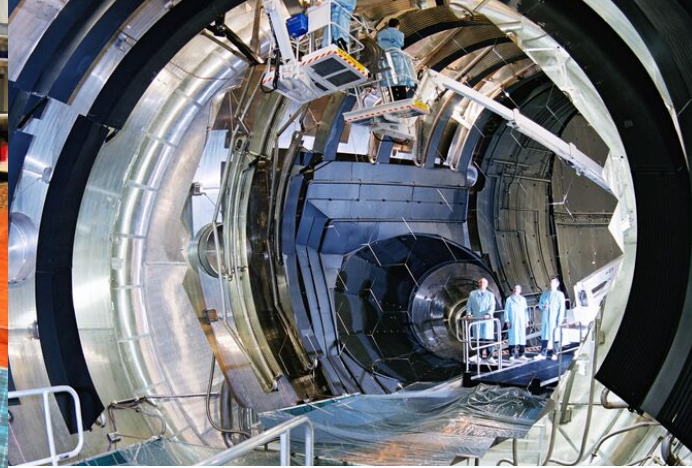
- More than 70 space companies
- 4000 professionals
- 6000 students
- Universities (LDE) & International knowledge institutes (SRON, TNO, NLR)
- Colleges and the LIS



# ESTEC, ESA'S TECHNICAL HEART







**ESTEC ESA'S TECHNICAL HEART**



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



**> 2500 HIGHLY SKILLED  
TECHNICAL PROFESSIONALS**



**STATE OF THE ART TECHNICAL (TEST)  
FACILITIES AND LABORATORIA**



**120 PHD-STUDENTS, 100 YOUNG  
GRADUATES**

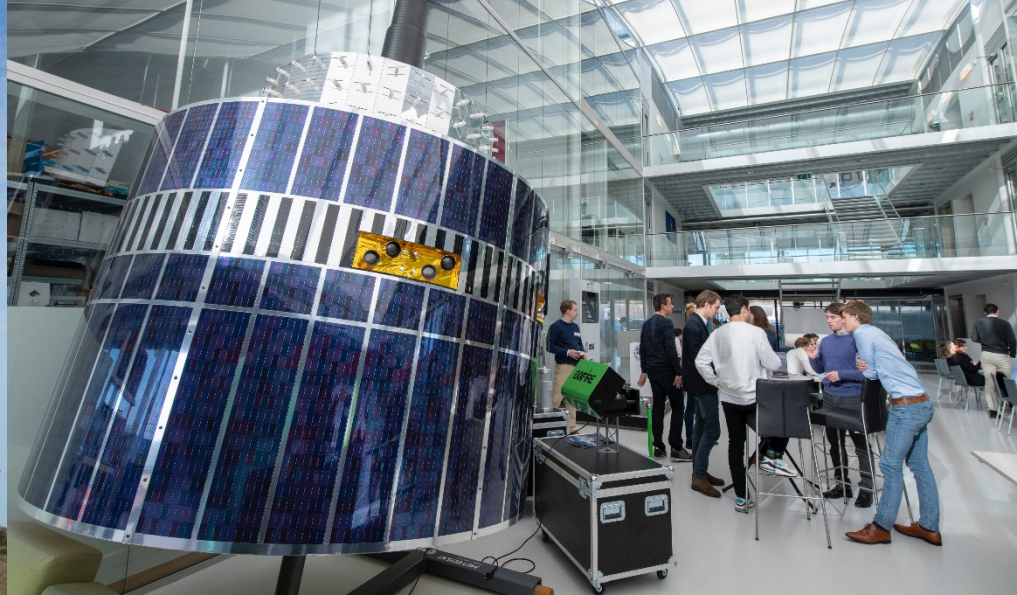


**MORE THAN 100,000 INTERNATIONAL  
BUSINESS VISITORS PER YEAR**



**ESTEC OPEN DAY: 9000 VISITORS OF  
WHICH 52% INTERNATIONAL**

# SPACE BUSINESS INNOVATION CENTRE - SBIC



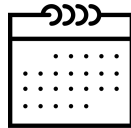
## START- UPS

More than 15  
start-ups



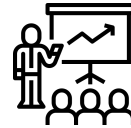
## SUCCESSFUL COMPANIES

Breeding ground for  
successful companies



## EXCLUSIVE EVENTS

Exclusive access to  
(international) events



## TRAINING

Workshops,  
Seminars and  
Training Courses



## COMMUNITY

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

 OPT/NET



**JOHAN**  
ONE TOUCH PLAY





# GALILEO REFERENCE CENTRE



Independent monitoring and surveillance of the quality of satellite data of the entire Galileo system



Clustering of all GNSS - data



# SPACE EXPO



MORE THAN 100,000 VISITORS PER  
YEAR





#### Space Cluster Noordwijk - Leiden Region

- Schonenborg (Noordwijk)
- Cosine (Warmond)
- 3D-One (Warmond)
- West End (Lisse)
- Johan Sport (Hoofddorp)
- Geometius (Alphen aan de Rijn)
- Terma (Leiden)
- Marshall Aerospace (Leiden)
- Stellar (Leiden)
- Black Holes (Leiden)
- Integricom (Leiden)
- Airbus Defense and Space (Leiden, Oegstgeest)
- Leiden University & Observatory (Leiden)
- NOVA Netherlands Research School for Astronomy (Leiden)
- Leidse Instrumentenmakers School (LIS) (Leiden)
- SRON (in 2021) (Leiden)

#### Huygensstraat 34

- ATG Europe
- SCN Avatar
- Vitrociset
- Space Application
- Active Space Technologies

#### Huygensstraat 44

- Genova
- HE Space
- Celestia
- Metasensing
- Eatops
- NLR
- Demand Planning Consultancy

#### Kapteijnstraat 1

- Sapienza
- Serco
- Verhaerd
- Head Aerospace
- Zirkzee
- Viridian
- Raven
- Radar
- Synext
- Netherlands Space Society

#### Kapteijnstraat 1

- Credion
- All 4 elevation
- Dutch Terrahertz
- Eye plane
- Goodwood
- Forcefox
- GroundCloud
- Meds2Go
- Polariks
- Satsearch
- Smart farm sensing
- SmartQare



## COMPANIES IN AND AROUND NOORDWIJK





## SPACE CLUSTER DELFT

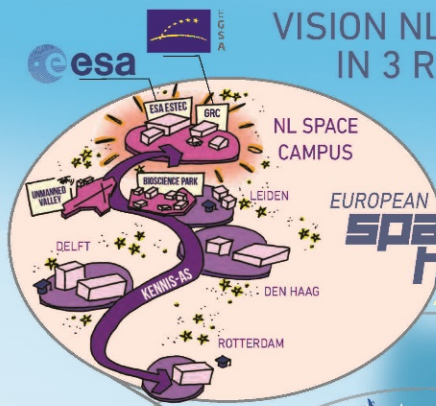
# Mission and vision on Space Campus





# VISION NL SPACE CAMPUS IN 3 ROLES, 3 CORE VALUES & 3 PHASES

3 ROLES



ESA ESTEC and GRC are jointly linked to the South Holland space cluster (LDE Universities, SRON, TNO, Industry) via the Space Campus, the European Space hub in the Netherlands, and therefore form part of the European Space network.

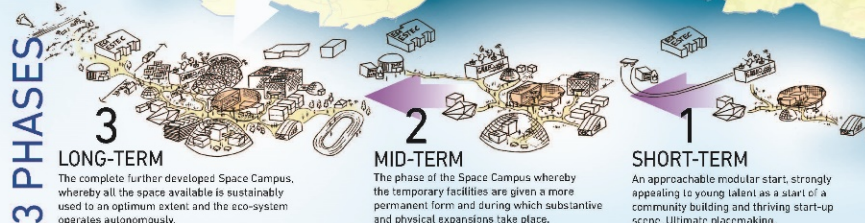
**DUTCH Space Gateway**

Space Campus gives access to the Dutch Space Cluster and is also the national and international meeting point for the Space sector, both from a physical and virtual perspective. The excellent meeting spaces, including the future IMF and the podium of national showpiece Space Expo (with continued development to Space Experience) meet the 'awareness' demand of the sector.

**NOORDWIJK Space Campus**

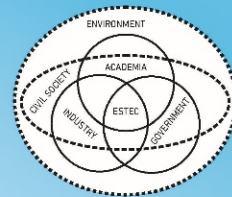
Space Campus in Noordwijk, ESA ESTEC, GRC and ESA BIC together form the physical and internationally oriented location for open innovation. This is where research, education, testing and development and new activities take place in close collaboration with the South Holland space cluster.

3 PHASES



## 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 their 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 campus.

### STIMULATING

Space Campus is the breeding ground and stimulator of meetings 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.

3 CORE VALUES

What forms a campus?



# 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
  - ✓ Marketing, acquisition and communication

# How to develop the Space Campus

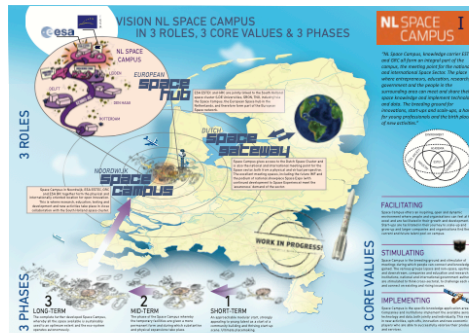
Explained from the three roles

## 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

## **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  
AND ACQUISITION**

**PROJECT DEVELOPMENT  
AND FUNDING**

**AREA DEVELOPMENT**

## Role 1

# Physical campus location

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.





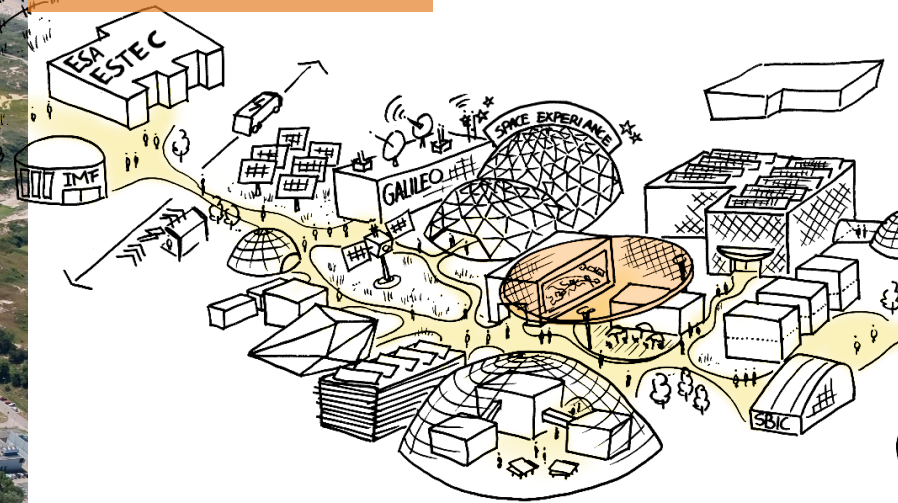


**BROKER**

**ESTEC LIAISON**

**TECHNOLOGY TRANSFER**

**COMMUNITY BUILDING**



**SME-HUB**







**VIRTUAL & AUGMENTED REALITY LAB SCN AVATAR**



**SAT IOT LAB**

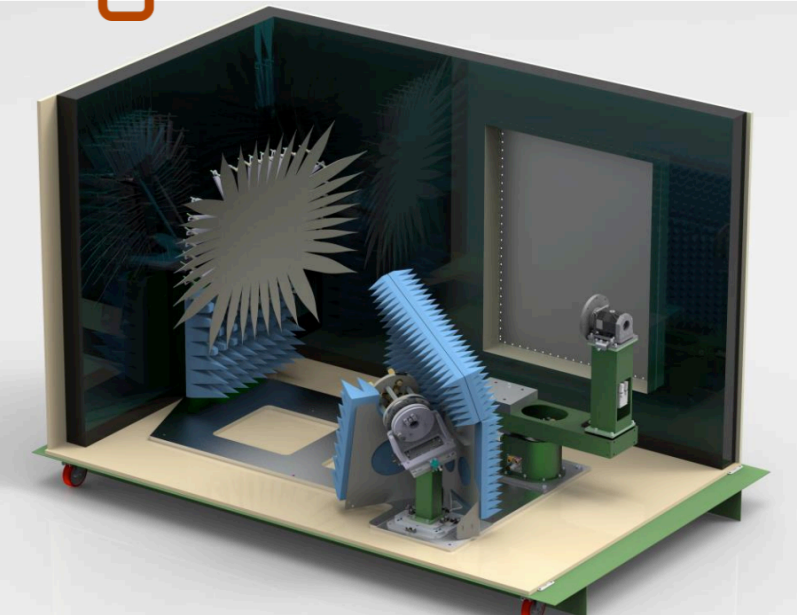


**FAB LAB**



**AIT FACILITY**

# Antenna Measurement Facility

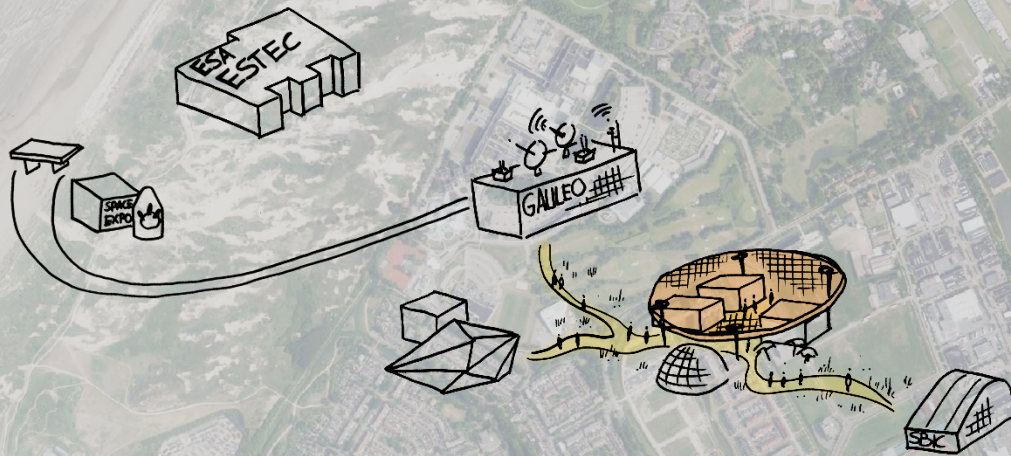


- Space/Defence/Telecom start-ups, SMEs find **more interesting to buy an Antenna Test Range as a Services (OPEX) rather than investing large CAPEX into expensive facilities.**
- ESA has **many Space companies requests that cannot be handled** in their ESTEC Site, and need to have associated and certified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



## Phase 1

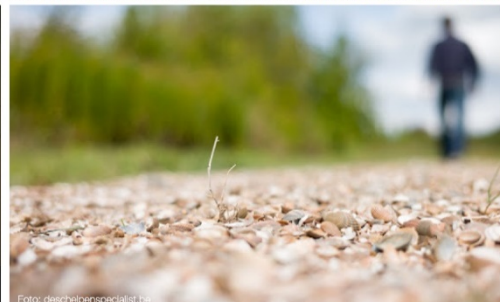
# Activation of the open field and community

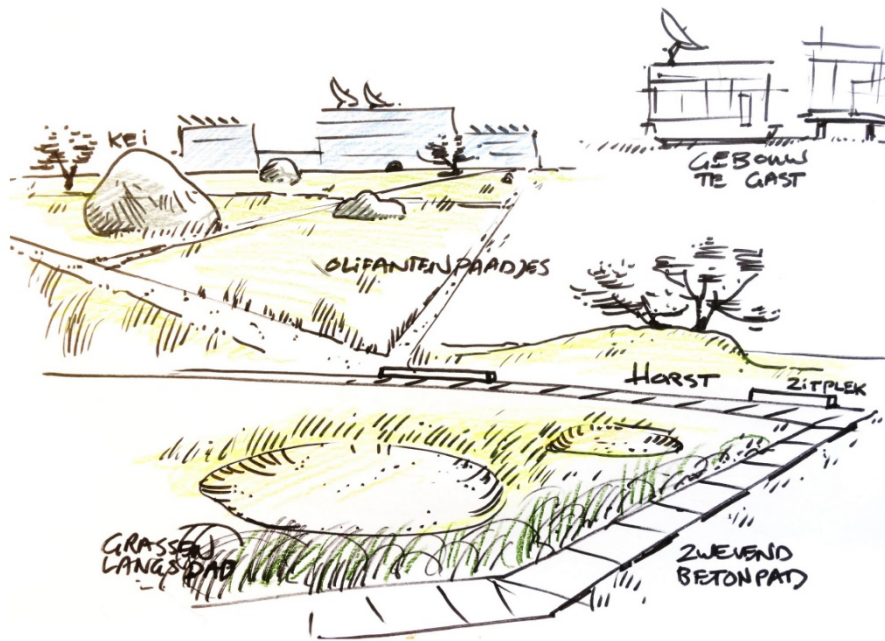




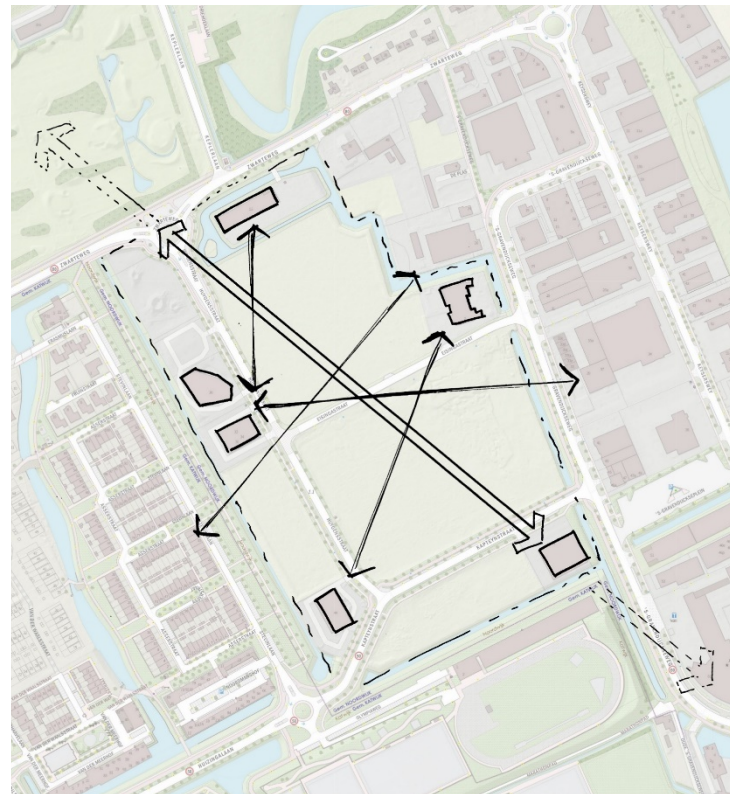


Examples of  
how to  
activate the  
open field, and  
how to  
stimulate  
interaction and  
coincidental  
meetings





Impression of activating the open field.

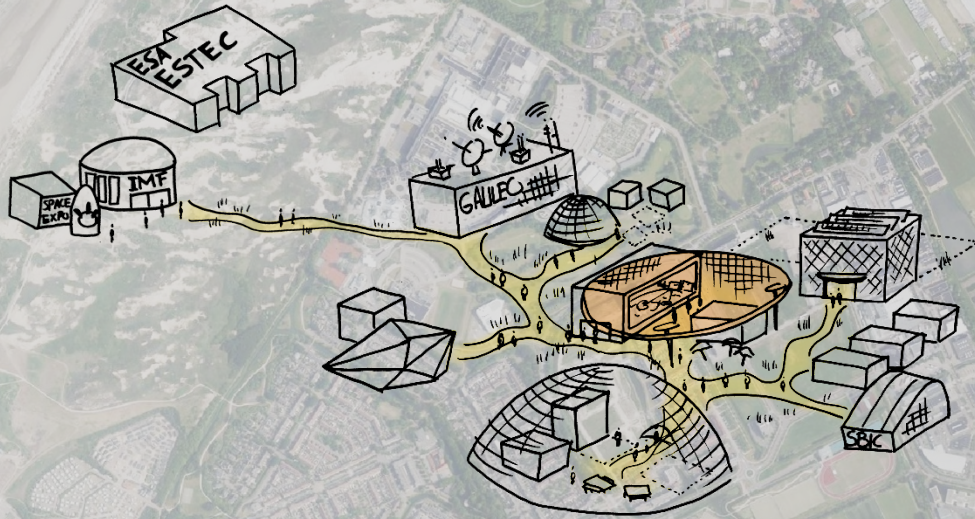


Indication routing and sub-routes through the open field.



Phase  
2 + 3

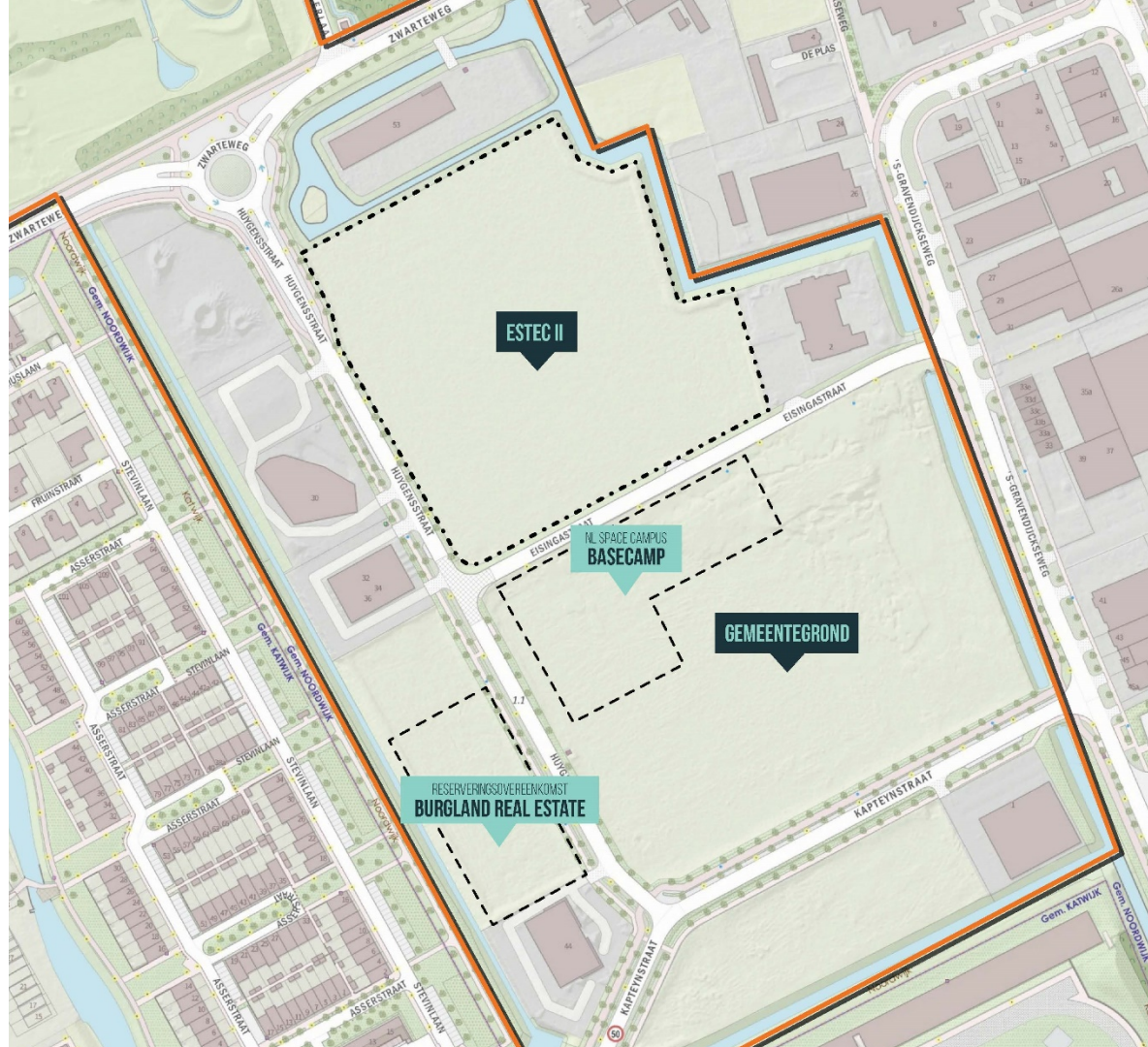
## Creating The Basecamp + connecting with the IMF



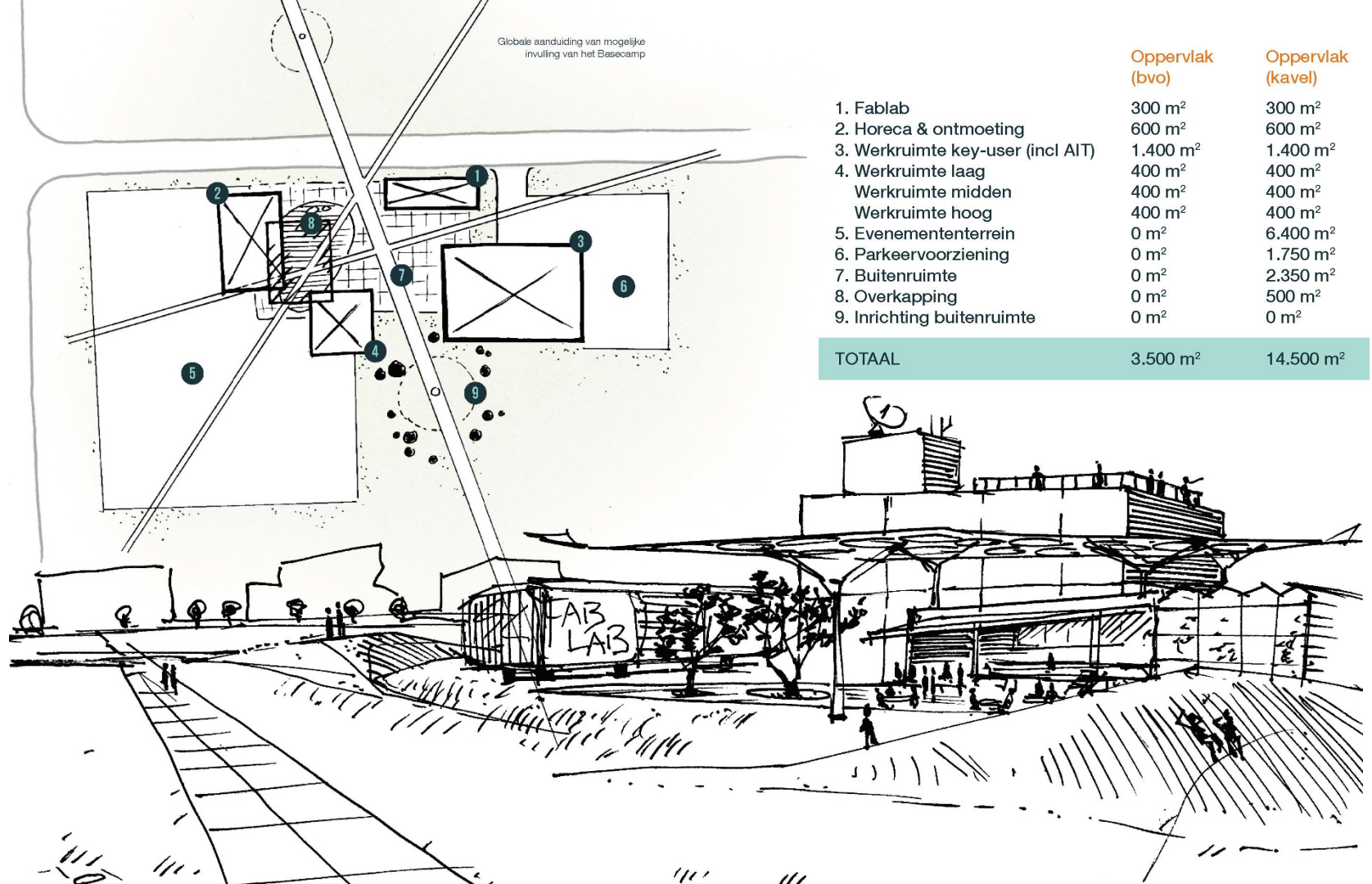


## Indication of location

### Basecamp



Globale aanduiding van mogelijke  
invulling van het Basecamp





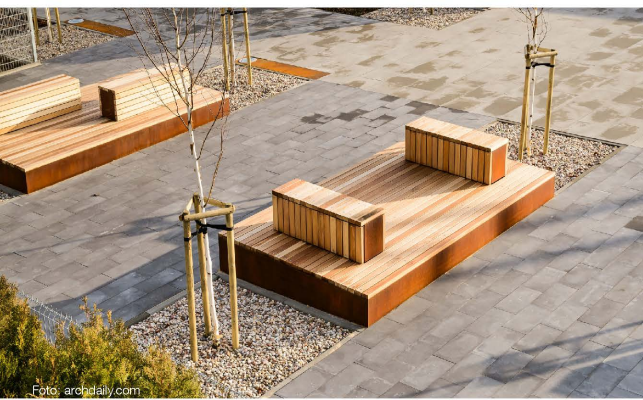


Foto: archdaily.com



Foto: urbanculturedesign.com



Foto: pinterest.com



Foto: riksoverheid.nl



Foto: pinterest.com

References for  
materialisation,  
quality and  
appearance of  
the base camp



Foto: urbangreenbluegrids.com



Foto: pinterest.com

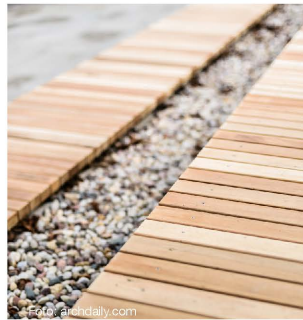


Foto: archdaily.com



Foto: pinterest.com



Foto: depositphotos.com



Foto: spaarsen.nl



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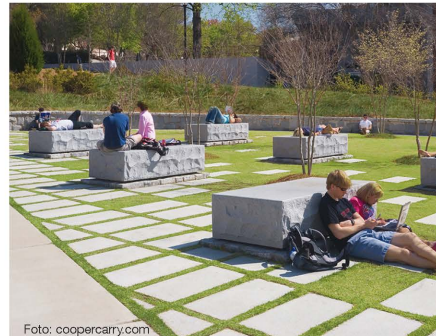


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Foto: pinterest.com





Beeld: Jan Snel



Beeld: Jan Snel



Beeld: Vakwerkkarchitecten Delft



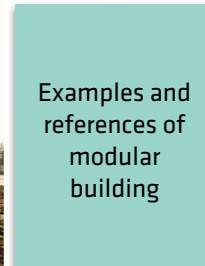
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Jan Snel



Beeld: Jan Snel



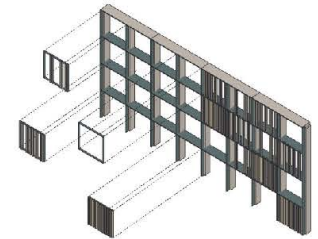
Beeld: Vakwerkkarchitecten Delft



Beeld: Jan Snel



Beeld: RoosRos



Beeld: RoosRos



## Phase 4

# Developing into a complete campus ...no fence








## Role 2

## Dutch space gateway

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.





**International Meeting  
Facility (Q1 2023)**

**Strong collaboration  
with NSO, SpaceNed and NVR**

**Transformation  
Space Experience**

**Community building and  
events together with partners**



### Role 3

## 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 Campus 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.



Universiteit  
Leiden  
The Netherlands



Erasmus  
University  
Rotterdam



SRON  
Netherlands Institute for Space Research

TNO  
innovation  
for life



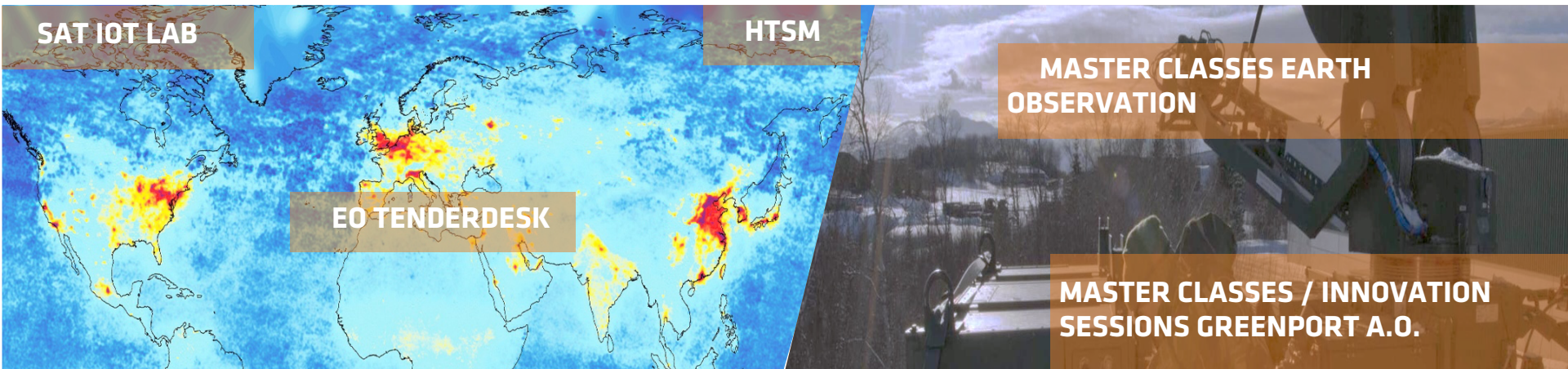
Koninklijk Nederlands  
Meteorologisch Instituut  
Ministerie van Infrastructuur en Milieu

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

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

# 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.





# GNSS CENTRE OF EXCELLENCE

Where business, data and knowledge comes together



s[&]t



CGI

# Branding and positioning

# REBRANDING SPACE CAMPUS

Space  
Campus  
Noordwijk



NLSPACE  
CAMPUS

April 2021



# 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



**If you want to be a little better: be competitive. If you want to be exponentially better: be cooperative.**

***-Quote William Shakespeare-***



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!



Draft Action Agenda  
*Innovation Hot Spots*

# Hotspots Innovation Delta Zuid-Holland: Action Agenda

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     |



Economic  
Board  
Zuid-Holland



Hightech  
Platform  
West-NL



# Draft Action Agenda

“The Action Agenda consists of four linked Action Lines, each aimed at accelerating innovation. The ambition is to double the turnover of the Technology Industry through innovation.

## To do this, it is necessary to:

1. Joining forces of all parties on a limited number of new product chains
2. Making production more flexible and efficient by means of digitalization
3. Having and keeping sufficient well-trained talent available, at all levels
4. Building an ecosystem where talent, knowledge & skills and financing can be found quickly.”



Economic  
Board  
Zuid-Holland

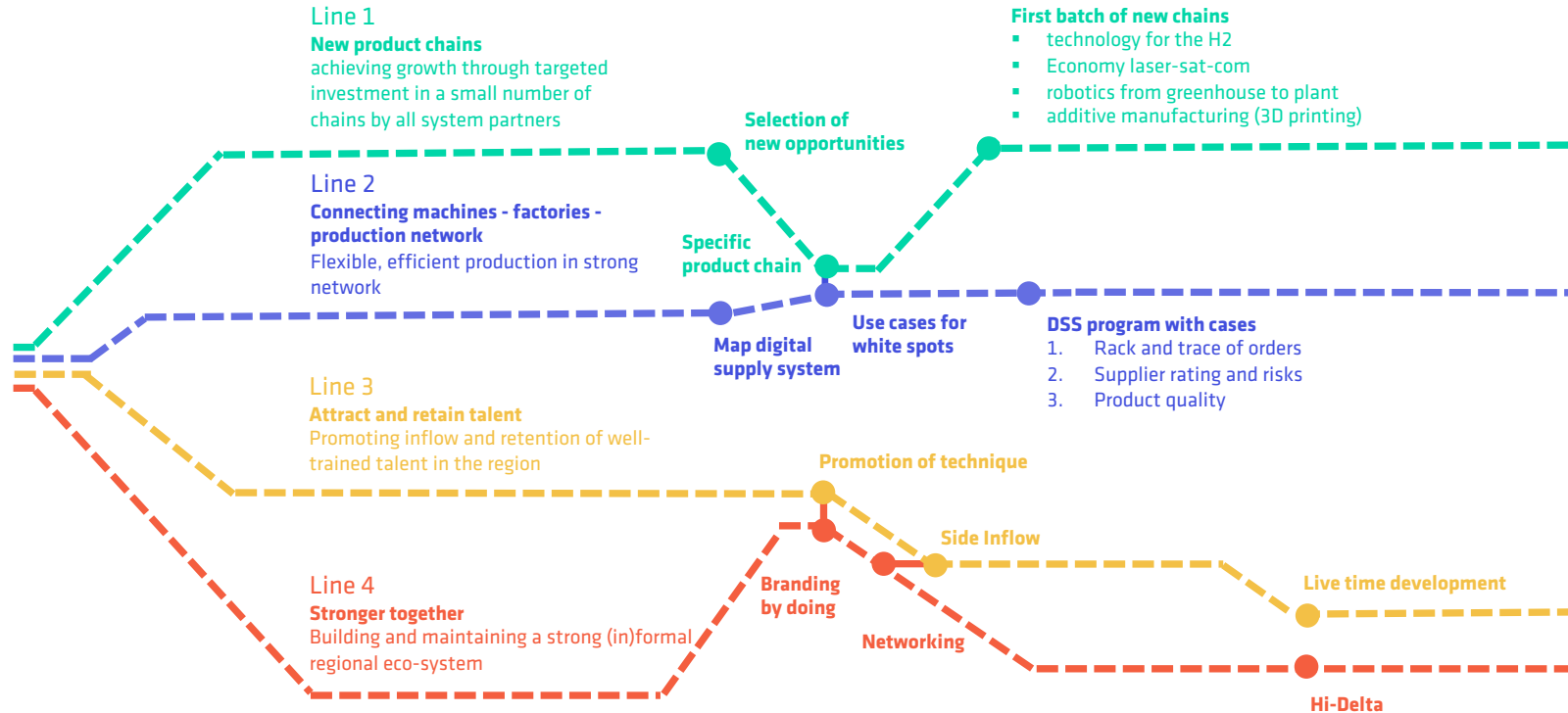


*Hightech  
Platform  
West-NL*





# Draft Action Agenda Technology Industry



Break Out Hot Spot

# WHAT IS THE PUPOSE OF THIS BREAK OUT SESSION?

- In general: consultation of each Hot Spot:
  - ✓ Are they on the right track with this Draft Action Agenda?
  - ✓ Do we as a hot spot recognize the Draft Action Agenda and the Action Lines?
- Input from each hot spot during the open discussion Campus
  - ✓ Is LaserSatCom the right subject / product chain? Is this a Space subject or a High Tech subject?
  - ✓ Does it need to be sharpened? Businessmodel, helping companies in the area, software possibilities?
  - ✓ Are there other subjects from the hot spot to be adressed?



## METHOD OF DISCUSSION

- Mentimeter (made by IQ)
- Open discussion after each action line

On to the Mentimeter....