

OPPORTUNITY FOR INNOVATION

SWISS CLEANTECH ANNUAL EVENT 2020

LONE FEIFER

OPPORTUNITY FOR INNOVATION

SWISS CLEANTECH ANNUAL EVENT 2020

LONE FEIFER, ARCHITECT MAA AND MASTER OF ENERGY & GREEN ARCHITECTURE

- DIRECTOR SUSTAINABILITY & ARCHITECTURE VELUX GROUP
- GENERAL SECRETARY, ACTIVE HOUSE ALLIANCE

VELUX GROUP

VELUX®

VELUX Sales
Company

Export Markets

Company facts

The VELUX Group is owned by VKR Holding A/S, a limited company wholly owned by the foundations and family.

The VELUX Group's financial results are incorporated into VKR Holding's consolidated accounts.

40

sales companies
around the world

17

production sites
in nine countries

11.200

employees
globally

2,6bn

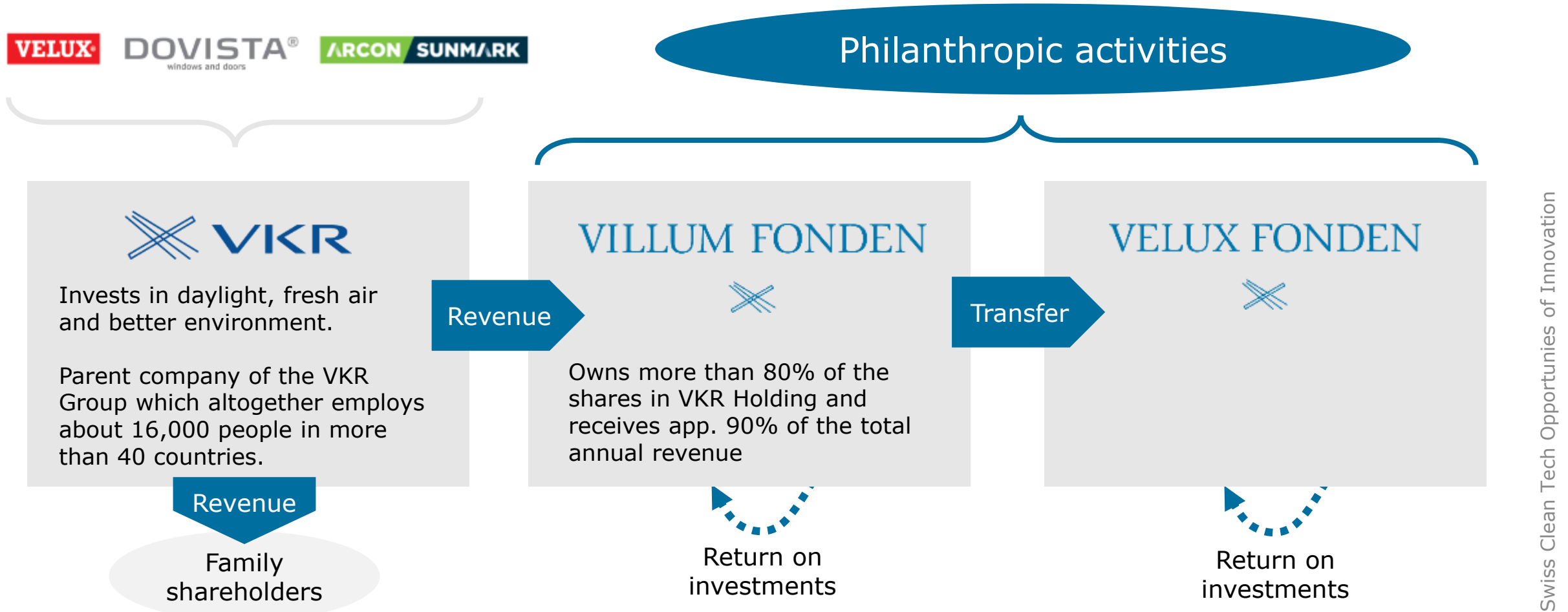
VKR Holding
revenue

239m

VKR Holding
net profit

2018 numbers
(EUR)

Our ownership model





VELUX STIFTUNG IS A SCIENCE-
FUNDING FOUNDATION WITH THE AIM TO
CAUSE IMPACT FOR SUSTAINABLE
IMPROVEMENT AND BENEFIT OF
MANKIND.



DAYLIGHT
RESEARCH
>



HEALTHY AGEING
RESEARCH
≥



OPHTHALMOLOGY
RESEARCH
>





DAYLIGHT & PERCEPTION FELLOWSHIP

Light is important for many biological functions beyond vision. Strong evidence has emerged that light quality can impact health and well-being. It regulates the daily synchronization of the biological clock. Since we spend most of our time inside buildings, potential chronobiologic implications for architectural design have led to the idea of a joint research project between these disciplines.

The innovative objective of this fellowship and the connected interdisciplinary projects was to integrate neurosciences into the design and development process as well as into the theoretical background of future architectural designs, especially with respect to daylight distribution in buildings. Such a goal can only be achieved by forming a close interdisciplinary collaboration between specialized disciplines.

PRINCIPAL INVESTIGATOR:

Professor Dr. Jean-Louis
Scartezzini, Solar Energy and
Building Physics Laboratory,
EPFL, Switzerland

POSTDOCTORAL FELLOW:

Dr. Mirjam Münch, Group
Sleep Research & Clinical
Chronobiology, Charité
University Medicine, Berlin,
Germany

BUDGET:

CHF 1'180'000

DURATION:

6 years (2009-2013 & 2014-
2015)



VELUX®





Grant areas

**EUR
118m**
THE VELUX FOUNDATIONS
VILLUM FONDEN VELUX FONDEN

Research



EUR 57.8m

Environment



EUR 20.8m

Social projects



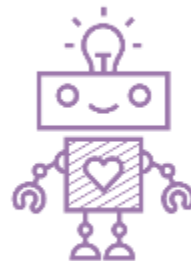
EUR 22.5m

Culture and society



EUR 10.6m

Children, youth
and science



EUR 2.9m

Active senior citizens



EUR 2.9m

Awards



EUR 0.8m

(2018 figures)

It's who we are

"It is the Group's purpose to establish a number of Model Companies, which cooperate in an exemplary manner. By Model Company we mean a company working with products useful to society, which treats its customers, suppliers, employees of all categories and shareholders better than most other companies. A Model Company makes a profit, which can also finance growth and maintain financial independence."

– Villum Kann Rasmussen, 1965

The Velux logo, consisting of the word "VELUX" in white, bold, sans-serif capital letters, followed by a registered trademark symbol (®). It is set against a solid red rectangular background.

VELUX®

SUSTAINABILITY
STRATEGY 2030

The phrase "It's our nature" in a large, bold, black, sans-serif font. The text is centered within a white house-shaped graphic. The words "It's" and "nature" are on the top line, and "our" is on the bottom line. The text is flanked by horizontal lines above and below it.

**It's our
nature**

SWISS CLEAN TECH OPPORTUNITIES OF INNOVATION





VELUX®

SWISS CLEAN TECH OPPORTUNITIES OF INNOVATION

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**It's our
nature**

SWISS CLEAN TECH OPPORTUNITIES OF INNOVATION

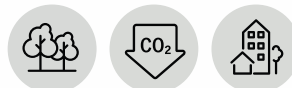
Business as unusual

Transformation ahead.
Business as usual is not enough.
Sustainability is our way of doing business.



It's our nature

Pioneer climate and nature action



Innovate sustainable products



Secure a responsible business



It's our nature

Pioneer climate and nature action



Capture our historical
carbon footprint



Reduce our future
carbon footprint



Show how to
build sustainably

Innovate sustainable products

Secure a responsible business

PIONEER CLIMATE AND NATURE ACTION



Show how to build sustainably

Inspire and advocate for sustainable buildings and communities as a strong lever for the green transition and quality of life.

LIVING LABS

15
years



01 Torzhkovskaya Street

St Petersburg, Russia



02 Soltag

Copenhagen, Denmark



03 Átika

Bilbao, Spain



04 VELUXlab

Milan, Italy



05 VELUX House, COP15

La Rochelle, France



06 Home for Life

Aarhus, Denmark



07 Green Lighthouse

Copenhagen, Denmark



08 Sunlighthouse

Vienna, Austria



09 LichtAktiv Haus

Hamburg, Germany



10 Maison Air et Lumière

Paris, France



11 CarbonLight Homes

Kettering, UK



12 Osram Culture Centre

Copenhagen, Denmark



13 Guldberg School

Copenhagen, Denmark



14 Albertslund Solar Prism

Albertslund, Denmark



15 Russian Active House

Moscow, Russia



16 Solhuset

Hoersholm, Denmark



17 ISOBO Aktiv

Stavanger, Norway



18 Future Active House

Trondheim, Norway



19 Smith Residence

St. Louis, USA



20 De Poorters

Montfoort, the Netherlands



21 Healthy Home townhouses

Stjoerdal, Norway



22 Multi Comfort House

Dzerzhinsk, Belarus



23 Great Gulf Thorold

Toronto, Canada



24 Optima House

Kiev, Ukraine



25 Langebjerg School

Fredensborg, Denmark



26 Green Solutions House

Roenne, Denmark



27 Solar Decathlon

RhOME, Italy



28 LangFang Office

Beijing, China



29 RenovActive

Brussels, Belgium



30 Centennial Park

Toronto, Canada

23

30

19

18

21

17

02, 06, 07,
12, 13, 14,
16, 25, 26

01

28

15

22

24

08

27

09

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29

10

05

03

04



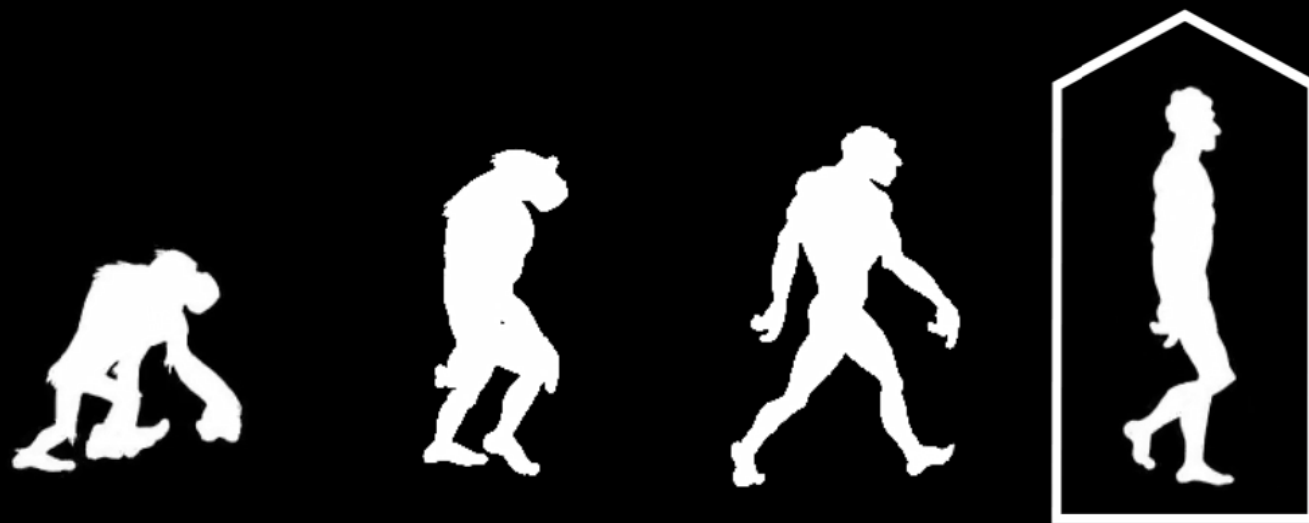
PRIORITY # 1



1 kg
food

3 litres
water

15 kg
air



THE INDOOR GENERATION



HOME SWEET HOME

It's our nature

Pioneer climate and nature action

Innovate sustainable products



Innovate digital products for sustainable living



Reduce our product carbon footprint



Green our packaging

Secure a responsible business



Ensure diversity and an inclusive culture



Strive for zero accidents



Achieve zero waste



Increase number of women in management positions



Provide healthy workspaces



Share sustainable innovations



Employ people with disabilities



Reduce work-related air travel and switch to zero emission cars



Promote a circular economy



INNOVATE SUSTAINABLE PRODUCTS



Innovate digital products for sustainable living

30% of windows with sensor-driven automation to bring daylight and fresh air into buildings.





COMFORT

ENVIRONMENT

ENERGY

GREEN SOLUTION HOUSE, BORNHOM FOTO: ADAM MØRK



The Active Mass Radar is calculated based on the performance before and after the renovation of the hotel rooms.

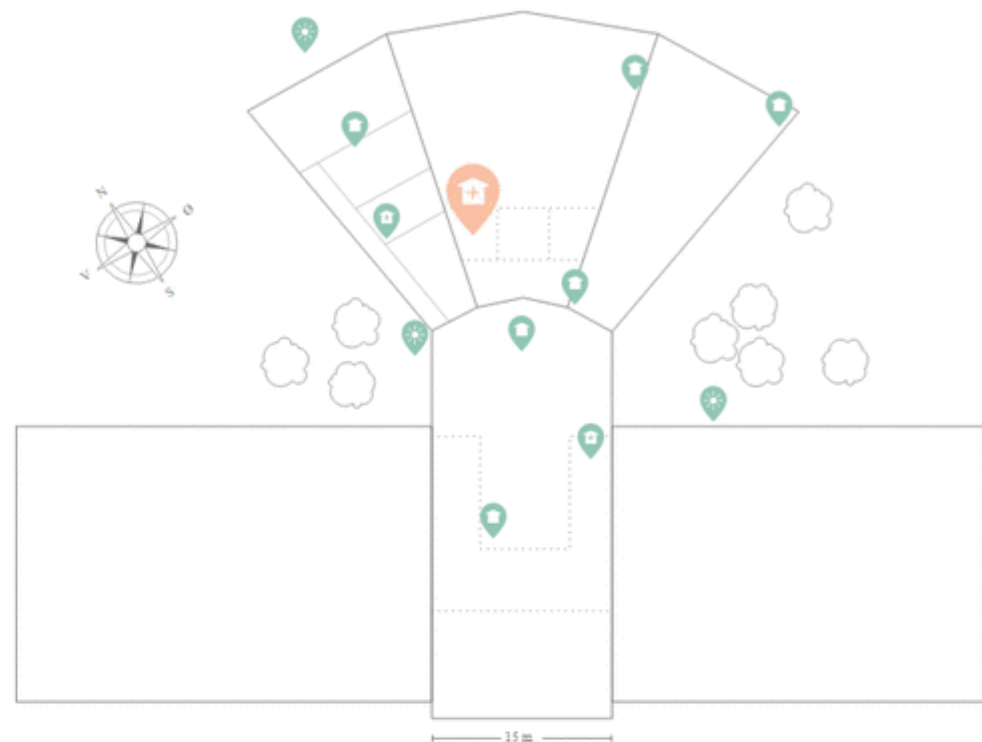
■ Calculation performance after the renovation
 ■ Calculation performance before the renovation



Aug '16

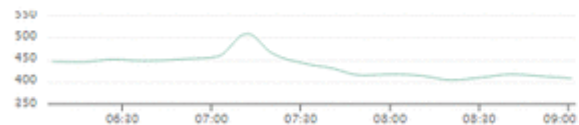


Green Solution House - Bornholm



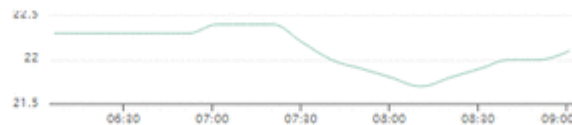
Carbon dioxide

408
PPM



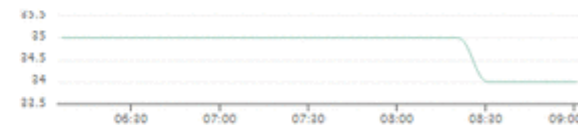
Temperature

22.1
°C



Humidity

34
%



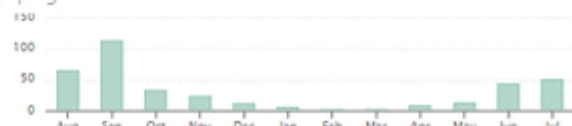
Energy demand

1976
kWh



Energy supply

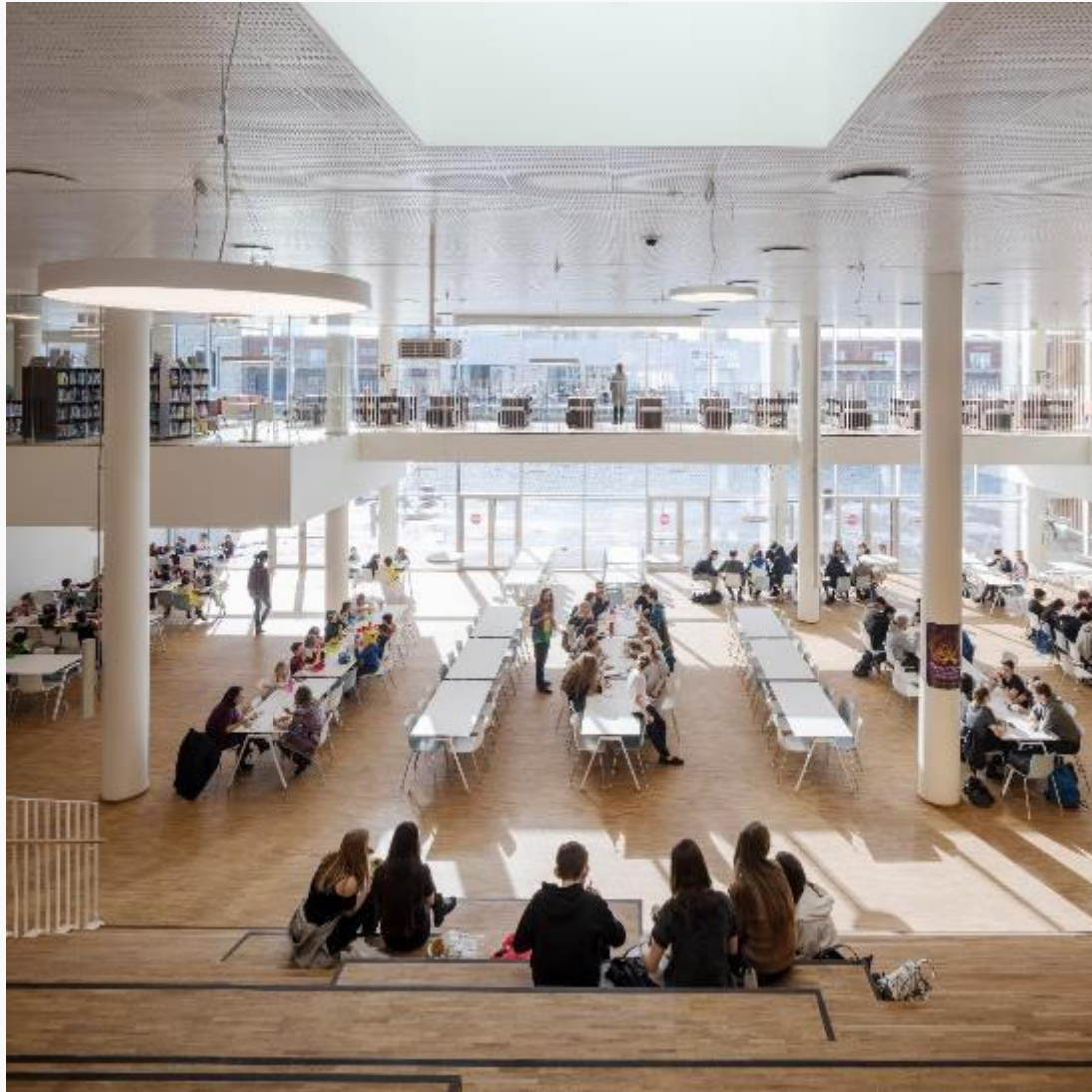
52.2
%



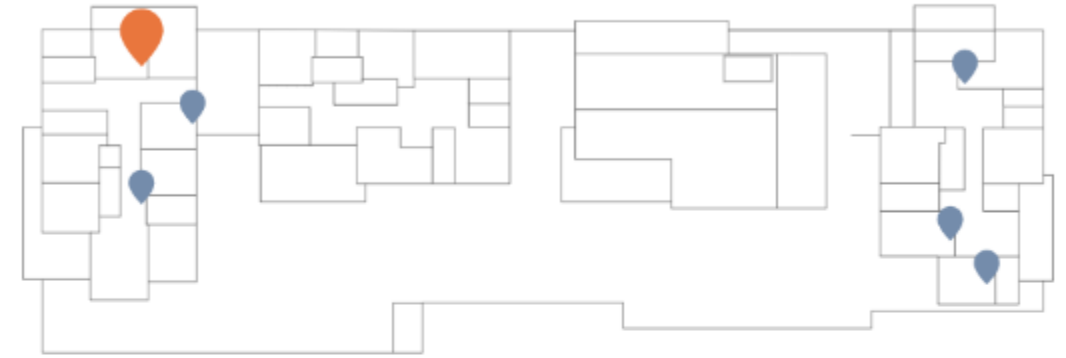
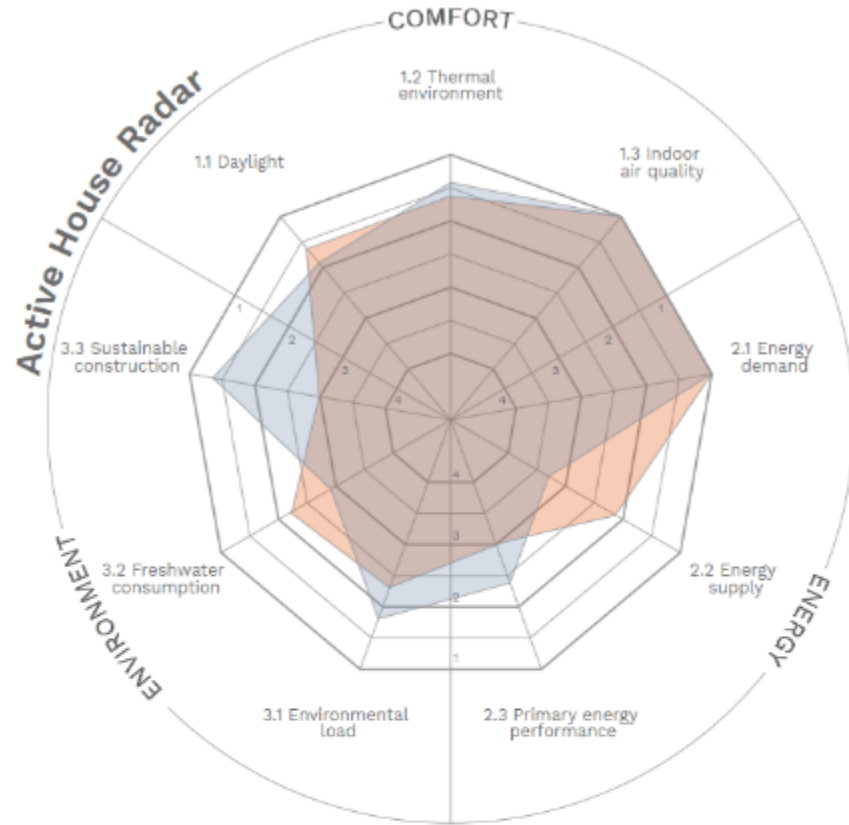
Energy performance

3
kWh/m²





May '18



Copenhagen International School (5th floor)

Carbon dioxide

460.0
PPM



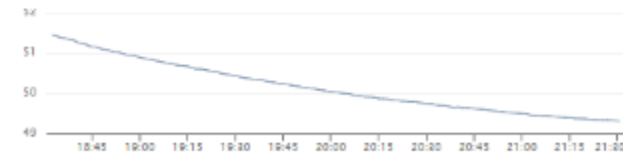
Temperature

24.1
°C



Humidity

49.3
%



Energy demand

30.1
kWh/m²



Energy supply

21.7
kWh/m²



Primary energy

14.9
kWh/m²



SWISS CLEAN TECH OPPORTUNITIES OF INNOVATION

SENSEMAKING

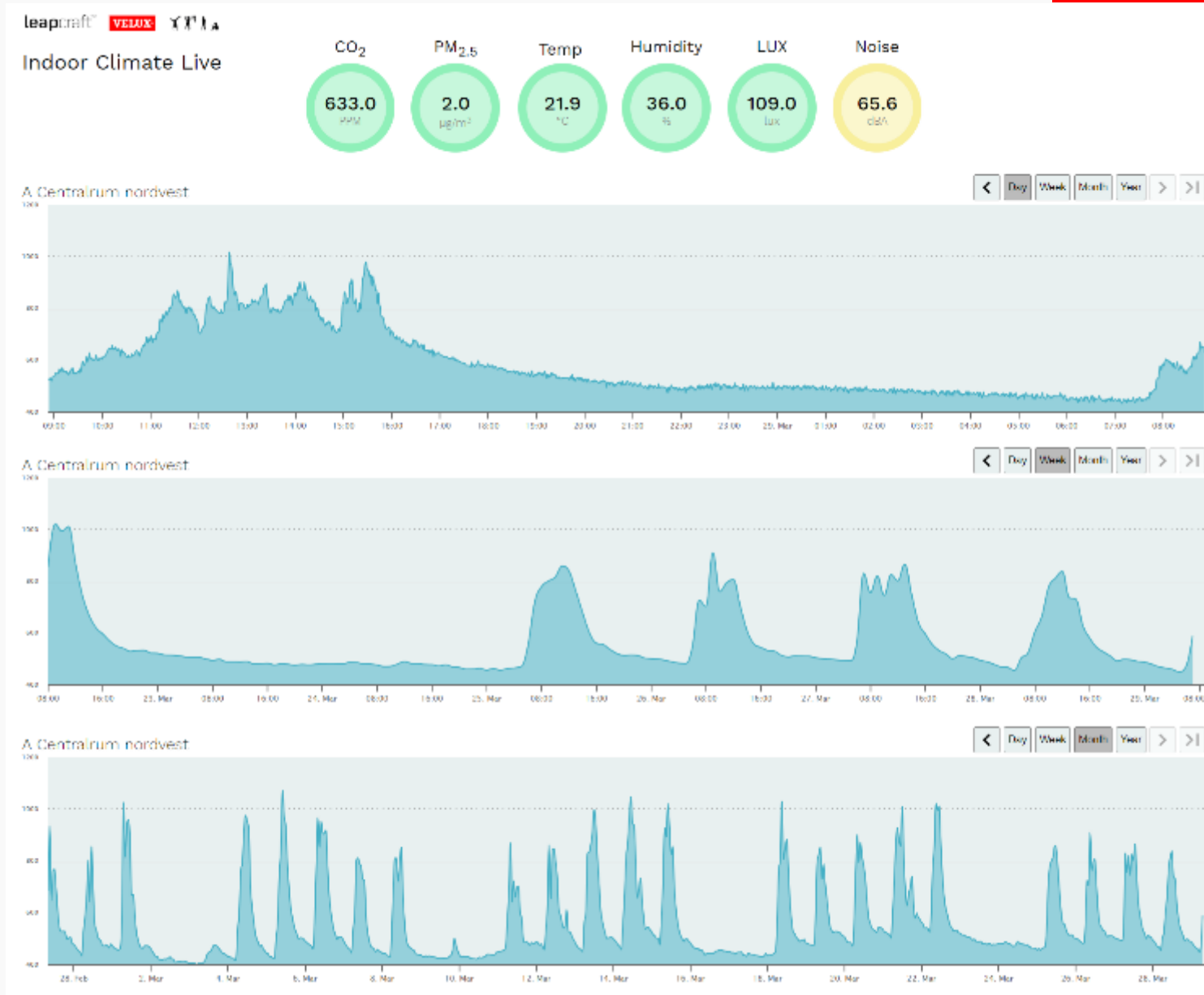
Data example CO₂ concentration

DAYS

WEEKS

MONTHS

VELUX®



WHAT IF AIR QUALITY HAD A SHAPE?



WHAT IF AIR QUALITY HAD A SHAPE?



AIRBIRD



leapcraft™ **VELUX®** **GXN**
INNOVATION

The AirBird® has been ideated, designed and developed in co-creation between GXN, VELUX Group and Leapcraft. www.getairbird.com



Accelerating the development of sustainable cities



Virtually join our next Urbantech Session 2020

[LIVE STREAMING HERE](#)

Corporate-Startup Engagement

Urbantech is a non-equity, pilot-focused innovation program hosted in Denmark. The program works in tailored processes with growth stage startups creating solutions in urban technology.

We accelerate pilot projects, sales and high-level corporate engagements during a three month program. We connect startups and corporate companies, so a



**It's our
nature**

Pioneer climate and nature action

Innovate sustainable products



**Innovate digital products
for sustainable living**



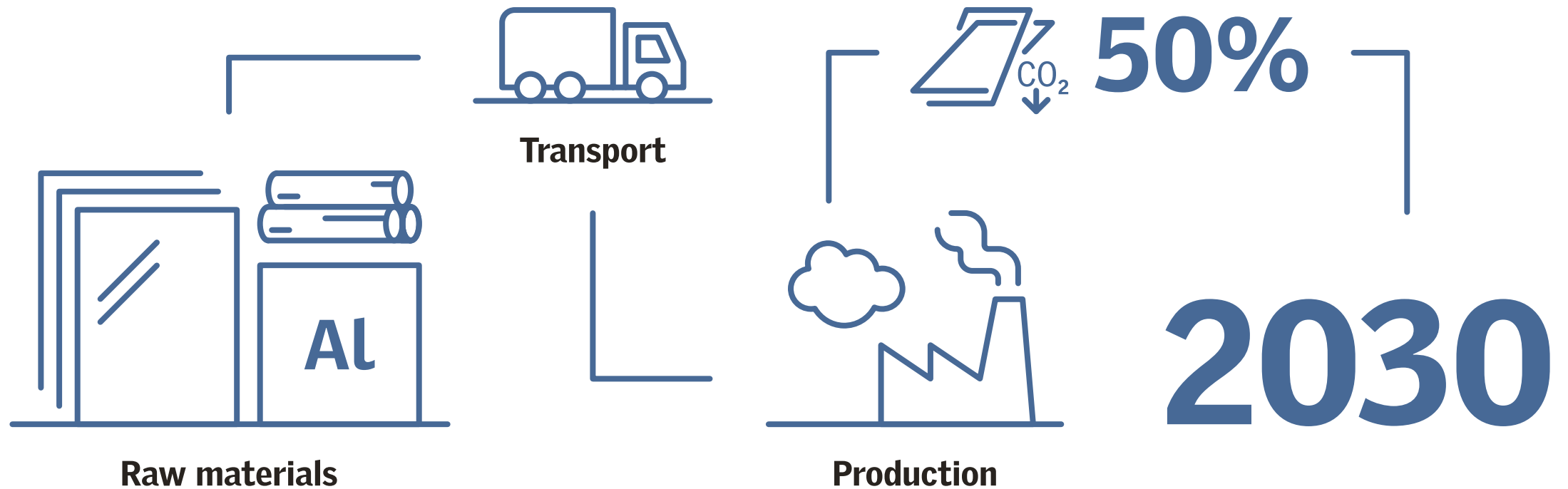
**Reduce our product
carbon footprint**



**Green our
packaging**

Secure a responsible business

Reduction of Product Carbon Footprint





VELUX®

SUSTAINABILITY
STRATEGY 2030

INNOVATE SUSTAINABLE PRODUCTS



Green our packaging

Ensure single material packaging.
Zero plastic.
100% recyclable.

SWISS CLEAN TECH OPPORTUNITIES OF INNOVATION

**It's our
nature**

Pioneer climate and nature action

Innovate sustainable products

Secure a responsible business

Becoming Lifetime Carbon Neutral by 2041





A white house-shaped graphic is centered on a background of a dense forest. The graphic contains the Velux logo, the text 'SUSTAINABILITY STRATEGY 2030', the slogan 'It's our nature', and a URL. The words 'It's our' are filled with a forest image, and the word 'nature' is solid black. The background shows tall evergreen trees and a forest floor covered in moss and small plants.

VELUX®

SUSTAINABILITY
STRATEGY 2030

**It's our
nature**

<https://www.velux.com/what-we-do/sustainability/sustainability-strategy>

SWISS CLEAN TECH OPPORTUNITIES OF INNOVATION



THANKYOU FOR THE ATTENTION