Welkom bij CoreNet Global Benelux

Workplace Data: Perception and Realities
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.00 – 16.30 uur</td>
<td><em>Wat is de waarde van werkomgeving?</em></td>
<td>Gideon van der Burg, Managing Director Benelux bij Leesman</td>
</tr>
<tr>
<td>16.30 – 17.00 uur</td>
<td><em>Workplace realities and perception</em></td>
<td>Erik Jaspers, Product Strategy &amp; Innovation Officer bij Planon</td>
</tr>
<tr>
<td>17.00 – 17.45 uur</td>
<td><em>Office safari – experience Workplace Data</em></td>
<td></td>
</tr>
<tr>
<td>17.45 – 18.15 uur</td>
<td><em>Workplace Data – the link between realities and perception</em></td>
<td>Gideon van der Burg, Managing Director Benelux bij Leesman &amp; Erik Jaspers, Product Strategy &amp; Innovation Officer bij Planon</td>
</tr>
<tr>
<td>18.15 – 19.00 uur</td>
<td><em>Netwerken &amp; drinks</em></td>
<td></td>
</tr>
</tbody>
</table>
What’s the value of a working environment?

Gideon van der Burg
Leesman MD Benelux
1. Who are Leesman?
2. Cost vs Value
3. High performing workspaces
2009 Why is there no standard to measure effectiveness of a working spaces?
2010 Annie Leeson and Tim Oldman founded Leesman
Who are Leesman?

- A standardized measure
- Independent
- No other services
- Largest global benchmark
First 5 years 70,000 respondents
Last 1,5 years 125,000 respondents
Global methodology
Some of our partners in the Benelux
How does it work and what does it measure?

1. Design impact
   Impact workplace is having on pride, productivity, enjoyment etc

2. Activity analysis
   What employees are doing and how well each activity supported

3. Physical features
   The physical features needed and how satisfied they are with each

4. Service features
   The service features needed and how satisfied they are with each

5. Mobility profile
   How mobile are employees inside and beyond their workplace
How does it work and what does it measure?

1. **Design impact**
   Impact workplace is having on pride, productivity, enjoyment etc
   - Score: 8

2. **Activity analysis**
   What employees are doing and how well each activity supported
   - Score: 21

3. **Physical features**
   The physical features needed and how satisfied they are with each
   - Score: 25

4. **Service features**
   The service features needed and how satisfied they are with each
   - Score: 25

5. **Mobility profile**
   How mobile are employees inside and beyond their workplace
   - Score: 8

\[ \text{Design impact} + \text{Activity analysis} + \text{Physical features} + \text{Service features} + \text{Mobility profile} = \text{Leesman Lmi “score”} \]

\[ \text{Leesman}^+ \]

Score:
- Design impact: 8
- Activity analysis: 21
- Physical features: 25
- Service features: 25
- Mobility profile: 8

Total score: 33.1

Leesman Lmi “score”: 81.7
The design of my workplace enables me to work productively\(^1\)

\(^1\) n = 169,838 Leesman database overall – 30.06.16
1. Who are Leesman?
2. Cost vs Value
3. High performing workspaces
Utilisation

Net Efficiency

Cost
6-person meeting room
6-person meeting room
Productive?
4-person meeting rooms
Costs
Costs

Utilisation
What does this look like in practice?
1. Who are Leesman?
2. Cost vs Value
3. High performing workspaces
The design of my workplace enables me to work productively

Client A Lmi 33.1
Client B Lmi 81.7
High performing workspaces

Changing the workplace strategy landscape

Leesman+ Accreditations

The table below shows the top performing organisations based on the Leesman+ index. The highlighted highlights the top performing organisations across various categories. This report highlights the strategies and practices that differentiate high-performing workspaces.

<table>
<thead>
<tr>
<th>Client</th>
<th>Score</th>
<th>Location</th>
<th>Leesman+ Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>92.5</td>
<td>Cupertino</td>
<td>95%</td>
</tr>
<tr>
<td>Google</td>
<td>93.2</td>
<td>Mountain View</td>
<td>96%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>91.7</td>
<td>Redmond</td>
<td>94%</td>
</tr>
<tr>
<td>Amazon</td>
<td>92.8</td>
<td>Seattle</td>
<td>95%</td>
</tr>
<tr>
<td>LinkedIn</td>
<td>93.1</td>
<td>Redmond</td>
<td>96%</td>
</tr>
<tr>
<td>Uber</td>
<td>92.6</td>
<td>San Francisco</td>
<td>94%</td>
</tr>
<tr>
<td>Facebook</td>
<td>93.4</td>
<td>Menlo Park</td>
<td>96%</td>
</tr>
<tr>
<td>Netflix</td>
<td>92.9</td>
<td>Los Gatos</td>
<td>95%</td>
</tr>
<tr>
<td>Visa</td>
<td>93.3</td>
<td>Mountain View</td>
<td>95%</td>
</tr>
<tr>
<td>Tesla</td>
<td>92.7</td>
<td>Hawthorne</td>
<td>94%</td>
</tr>
<tr>
<td>JP Morgan</td>
<td>91.9</td>
<td>New York</td>
<td>93%</td>
</tr>
<tr>
<td>McDonald's</td>
<td>90.5</td>
<td>Chicago</td>
<td>92%</td>
</tr>
<tr>
<td>Walmart</td>
<td>92.1</td>
<td>Bentonville</td>
<td>94%</td>
</tr>
</tbody>
</table>

Performance insights include:
- Client: top performing organisations
- Location: regional and global locations
- Leesman+ Rating: overall performance rating

This report highlights the strategies and practices that differentiate high-performing workspaces.

Changing the workplace strategy landscape

How data insights built the global workplace effectiveness standard.
How do Leesman+ organisations differentiate?

- Recognition and acknowledgement programme for those workplaces achieving outstanding (Lmi 70+) effectiveness scores.
- Has focused new research initiative on understanding common attributes and features of the highest performance workspaces.
Where the best environments win?

<table>
<thead>
<tr>
<th></th>
<th>Average</th>
<th>Leesman+</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned meetings</td>
<td>78%</td>
<td>81%</td>
<td>+3%</td>
</tr>
<tr>
<td>Informal un-planned</td>
<td>63%</td>
<td>82%</td>
<td>+19%</td>
</tr>
<tr>
<td>meetings</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

"Where the best environments win?"
### Where the best environments win?

<table>
<thead>
<tr>
<th>Environment</th>
<th>Average</th>
<th>Leesman+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual focused work desk based</td>
<td>77%</td>
<td>85%</td>
</tr>
<tr>
<td>Thinking / creative thinking</td>
<td>52%</td>
<td>69%</td>
</tr>
</tbody>
</table>

Leesman+: +8% +17%
Where the best environments win?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Average</th>
<th>Leesman+</th>
<th>Leesman+ Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video conferencing</td>
<td>56%</td>
<td>76%</td>
<td>+20%</td>
</tr>
<tr>
<td>Relaxing taking a break</td>
<td>62%</td>
<td>81%</td>
<td>+19%</td>
</tr>
</tbody>
</table>
Where the best environments win?

<table>
<thead>
<tr>
<th>Type of Workspace</th>
<th>Average</th>
<th>Leesman+</th>
<th>Leesman+ Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atriums &amp; communal areas</td>
<td>43%</td>
<td>80%</td>
<td>+37%</td>
</tr>
<tr>
<td>Variety of different types of workspace</td>
<td>29%</td>
<td>61%</td>
<td>+32%</td>
</tr>
</tbody>
</table>
Project Henley | exiting new research project

1. Net internal area
2. Number of floors NIA distributed across
3. Sole occupier / mixed
4. Resident / assigned headcount / population
5. Proportion of allocated / unallocated desks
6. Proportion of solo / shared offices
7. Number of enclosed meeting rooms / sizes
8. Number of other meeting spaces
9. Environmental certification (LEED / BREEAM etc.)
10. Nature of catering / refreshment / coffee offer
11. Presence of atrium / communal space
12. Ease of access to outside spaces
13. Proximity to external retail / leisure facilities
14. FM service delivery strategy (in-house or outsourced)
15. Onsite leisure / wellness provision
Online workplace forums were alight recently with discussion about an article in the UK’s Guardian Online. %

Starbucks
27%
Caffè Nero
13.8%
AMT Coffee
1.4%

Market segment by brand

Property becomes an HR issue
Digital Business Gives Rise to the New Economics of Connections

Published: 1 October 2015

Digital business redefines the economic playing field as "things" join people and businesses in the connected world; the value of these connected assets expands tremendously. CIOs and IT leaders must apply new approaches to capitalize on the value delivered through the new economics of connections.
Better Workplaces

Experiences
classification
Analysis

Measurements
Quantification
Analysis
INTERNET OF THINGS

The network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment
WHY?

Key Areas That Buyers Seek From IoT Solutions

- Optimize assets (utilization, maintenance etc. 19%)
- Improve efficiencies and cost savings for business operations. (28%)
- Enhance the experience of your customers (25%)

Source: Gartner (November 2015)

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Collecting simple and undisputable Data will allow us to understand actual behavior of People and Things in Buildings.

And act on that.

IoT is not merely about connecting Things; It is about using Data to create new Interactions.
NEXT GENERATION IOT – BASED ON VALUES

- Simplicity
- Scalability
- Security
- Speed

Diversity
SIMPLICITY, SCALABILITY, SECURITY

LoRa™ RF LoRaMAC

TCP/IP SSL LoRaMAC

3G/ Ethernet Backhaul

AES Secured Payload Application Data

Network Server

Application Server

End Nodes

Concentrator
/Gateway

pet tracking

smoke alarm

water meter

trash container

vending machine

gas monitoring

TCP/IP SSL Secure Payload
SIMPLICITY, SPEED

1600 m
THE INTERNET OF THINGS
AN EXPLOSION OF CONNECTED POSSIBILITY

Cisco projections on IoT, www.i-scoop.eu
DEVICES ARE ASSETS…

CONNECT GATEWAY TO PLANON IOT SERVER...

CONFIGURE THE SENSOR VIA THE APP...

DONE! THE SENSOR IS NOW CONFIGURED AND CONNECTED
POWER OF: VISUAL FEEDBACK
SPACE DEMAND MANAGEMENT: INFORM-TO-SCALE

Friction Level

Occupancy Density

R(X)

0 2 4 6 8 10

X
Resource planning
Alarms
Helpdesk
FN ‘calls’, APPs
PMFS
SLA
ASSET MANAGEMENT: JUST-IN-TIME

COST OF FAILURE

HIGH

LOW

IN-SPECIFICATION PERFORMANCE

RISK OF NON-COMPLIANCE AND INEFFICIENCY

DOWNTIME AND REACTIVE REPAIR

GOOD INEFFICIENT FUNCTIONAL DEGRADATION FAILING

STATE OF ASSET
CONDITIONAL MAINTENANCE (JIT)

- Experience
- Demand
- Climate
- Condition
- Consumption
THE ROAD TO ‘SMARTNESS’ IS PAVED WITH DATA

**Goal Setting**: Define the key problem(s) to address

- **Connect**: Sensing & IoT Networking

- **Process**: Deterministic & Probabilistic Algorithms: IFTTT *If This Then That*

- **Learn**: Deep Neural Networks (DNN’s) ‘Machine Learning’, ‘Deep Learning’

- **Quantification**: Describe & adapt actual behavior using simple data: ROI
- **Smart**: Predicting behavior Prescribing response

*AIM FOR THE OPTIMUM*
SMART & LEARNING – ‘ON CHIP’ DNN TECHNOLOGY

Figure 1. Simulated Real-Time Output From a Smart Vision System

Source: Nvidia

Ref: Gartner, Tom Austin – Smart Machines See Major Breakthroughs After Decades of Failure
NEW DIMENSIONS OF INTEGRATION

$I^2$ WMS

Orchestration

Cloud brokering
Bachelor Thesis

Quantified Facility Management

“If you can’t measure it, you can’t manage it”
– Peter Drucker

An advisory report on how a quantified big data approach can contribute to the improvement of the FM function within the building and workplace areas

Concept thesis

Creating an objective data based model of ambient conditions in the physical office environment

Explore the possibilities and contribution of objective data of ambient conditions towards better evidence-based office designs

Maarten van Dijk

Maurice Aerts

NHTV Breda University of Applied Sciences

Wageningen University & Research
COMPLEMENTARY APPROACHES

Leesman®

Experiences
Classification
Analysis

Measurements
Quantification
Analysis

Better Workplaces
How Social, Leadership and Technology Innovations are Transforming the Workplace in the Digital Economy
Thank you.
Build the Tallest Freestanding Structure:

The winning team is the one that has the tallest structure measured from the table top surface to the top of the marshmallow. That means the structure cannot be suspended from a higher structure, like a chair.

The Entire Marshmallow Must be on Top:

The entire marshmallow needs to be on the top of the structure. Cutting or eating part of the marshmallow disqualifies the team.

Use as Much or as Little of the Kit:

The team can use as many or as few of the 20 spaghetti sticks, as much or as little of the string or tape. of their structure. The team cannot use the tube as part of their structure.

Break up the Spaghetti, String or Tape:

Teams are free to break the spaghetti, cut up the tape and string to create new structures.

The Challenge Lasts 18 minutes

Teams cannot hold on to the structure when the time runs out. Those touching or supporting the structure at the end of the exercise will be disqualified.
Groups

• **Group 1:** room 1.18  
  Timekeeper: Iwan van Eldijk

• **Group 2:** room 1.19  
  Timekeeper: Ans Toerab

• **Group 3:** room 1.20  
  Timekeeper: Erik Jaspers

• **Group 4:** room 1.38  
  Timekeeper: Daphne Tollenaar

• **Group 5 & 6:** room 1.39  
  Timekeeper: Gideon van der Burg
Good Luck!
How would you answer this question?

Does your working environment enables you to work productively?

Yes or No?
Marshmallow challenge
Does your working environment enable you to work productively?
### Who won?

<table>
<thead>
<tr>
<th>Group</th>
<th>Productivity</th>
<th>Challenge</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>100%</td>
<td>42cm</td>
<td>#</td>
</tr>
<tr>
<td>Group 2</td>
<td>0%</td>
<td>0cm</td>
<td>#</td>
</tr>
<tr>
<td>Group 3</td>
<td>100%</td>
<td>44cm</td>
<td>#</td>
</tr>
<tr>
<td>Group</td>
<td>Productivity</td>
<td>Challenge</td>
<td>Result</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>-----------</td>
<td>--------</td>
</tr>
<tr>
<td>Group 4</td>
<td>50%</td>
<td>23.5cm</td>
<td>#</td>
</tr>
<tr>
<td>Group 5</td>
<td>100%</td>
<td>51cm</td>
<td>#1</td>
</tr>
<tr>
<td>Group 6</td>
<td>100%</td>
<td>44cm</td>
<td>#</td>
</tr>
</tbody>
</table>
So what’s this all about?

<table>
<thead>
<tr>
<th>Group</th>
<th>Productivity</th>
<th>Challenge</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 (control group)</td>
<td>100%</td>
<td>42cm</td>
<td></td>
</tr>
<tr>
<td>Group 2 (temperature)</td>
<td>0%</td>
<td>0cm</td>
<td></td>
</tr>
<tr>
<td>Group 3 (air quality)</td>
<td>100%</td>
<td>44cm</td>
<td></td>
</tr>
</tbody>
</table>
So what’s this all about?

<table>
<thead>
<tr>
<th>Group</th>
<th>Productivity</th>
<th>Challenge</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 4</td>
<td>50%</td>
<td>23.5cm</td>
<td>#</td>
</tr>
<tr>
<td>(noise)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 5</td>
<td>100%</td>
<td>51cm</td>
<td>#1</td>
</tr>
<tr>
<td>(2 groups)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 6</td>
<td>100%</td>
<td>44cm</td>
<td>#</td>
</tr>
<tr>
<td>(2 groups)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Four biggest productivity killers

<table>
<thead>
<tr>
<th>Feature</th>
<th>Average</th>
<th>Leesman+</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature control</td>
<td>27%</td>
<td>35%</td>
<td>+8%</td>
</tr>
<tr>
<td>Air Quality</td>
<td>34%</td>
<td>50%</td>
<td>+16%</td>
</tr>
<tr>
<td>Quit Rooms for working alone or in pairs</td>
<td>26%</td>
<td>47%</td>
<td>+21%</td>
</tr>
</tbody>
</table>
## Four biggest productivity killers

<table>
<thead>
<tr>
<th>Noise levels</th>
<th>Average</th>
<th>Leesman+</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>31%</td>
<td>40%</td>
<td>+9%</td>
</tr>
</tbody>
</table>
Statistically, noise level is the strongest indicator for perceived productivity.
Which working environment supports meetings & collaboration best?

1. Activities
   Of a list of 21 every respondent selected activities which are important to them

2. Factor Analyses
   Which activities statistically cluster together

3. Clusters
   We looked at individual work – formal meetings – collaboration/interaction

4. Physical and service features - odd ratio’s
   Based on the activities selected what is the odd that to select specific features
It’s not a one dimensional solution

Formal Meetings

- Video conferences
- Larger group meetings or audiences
- Planned meetings
- Hosting visitors, clients or customers

Top 10 statistically most important features for formal meetings:

1. Meeting rooms (large)
2. Meeting rooms (small)
3. Desk / Room booking systems
4. Audio-Visual equipment
5. Guest / visitor network access
6. Reception areas
7. Remote access to work files or network
8. Printing / copying / scanning equipment
9. Hospitality services
10. Quiet rooms for working alone or in pairs
Collaboration & interaction

It’s not a one dimensional solution
What can we take away?

1. Workspaces have an impact on employees effectiveness
2. Occupancy might be high, but effectiveness very low
3. Creating effective workplaces is a multi-dimensional exercise
4. Use evidence in a smart way
What can we take away?
More research...