WOODEN POLES

CONTENT

Extensive product data can be found in a separate technical appendix.

DECORATIVE

WOODEN POLES

DESIGN FROM FINLAND

sales@tehomet.com

New products and reference photos
www.woodenpoles.com

LAYOUT: Aalto Oy, Mikkeli **PRINTING**: Teroprint Oy, Mikkeli 2018

Nordic Environmental label, 4041 0582 • Teroprint Oy, Mikkeli • 3/2018

Today the world is experiencing continuous change. As a result, the heritage and individual aspects of specific locations either survive or disappear. This not only creates challenges but also unlimited opportunities to adapt the infrastructure to the constant change, benefiting the heritage, the current circumstances and future development guidelines.

Lighting poles are often the most trivial of commonly visible commodities, but often they remain unseen due to their unattractive characteristics. Tehomet has been working to change this for several decades, providing city and municipality architects and lighting professionals with intriguing and fresh designs that transform lighting projects from necessities to signature landmarks, which at their best complement the surrounding architecture and local idiosyncrasies, and greet citizens with an individual touch.

I invite you to enjoy this selection, with its numerous beautiful alternatives, and encourage you to make a sustainable, unique and warm choice to make your beautiful surroundings even more attractive!

JARKKO KETTUNEN
General Manager
Tehomet Oy

FINNISH

FOREST

OUR GREEN GOLD

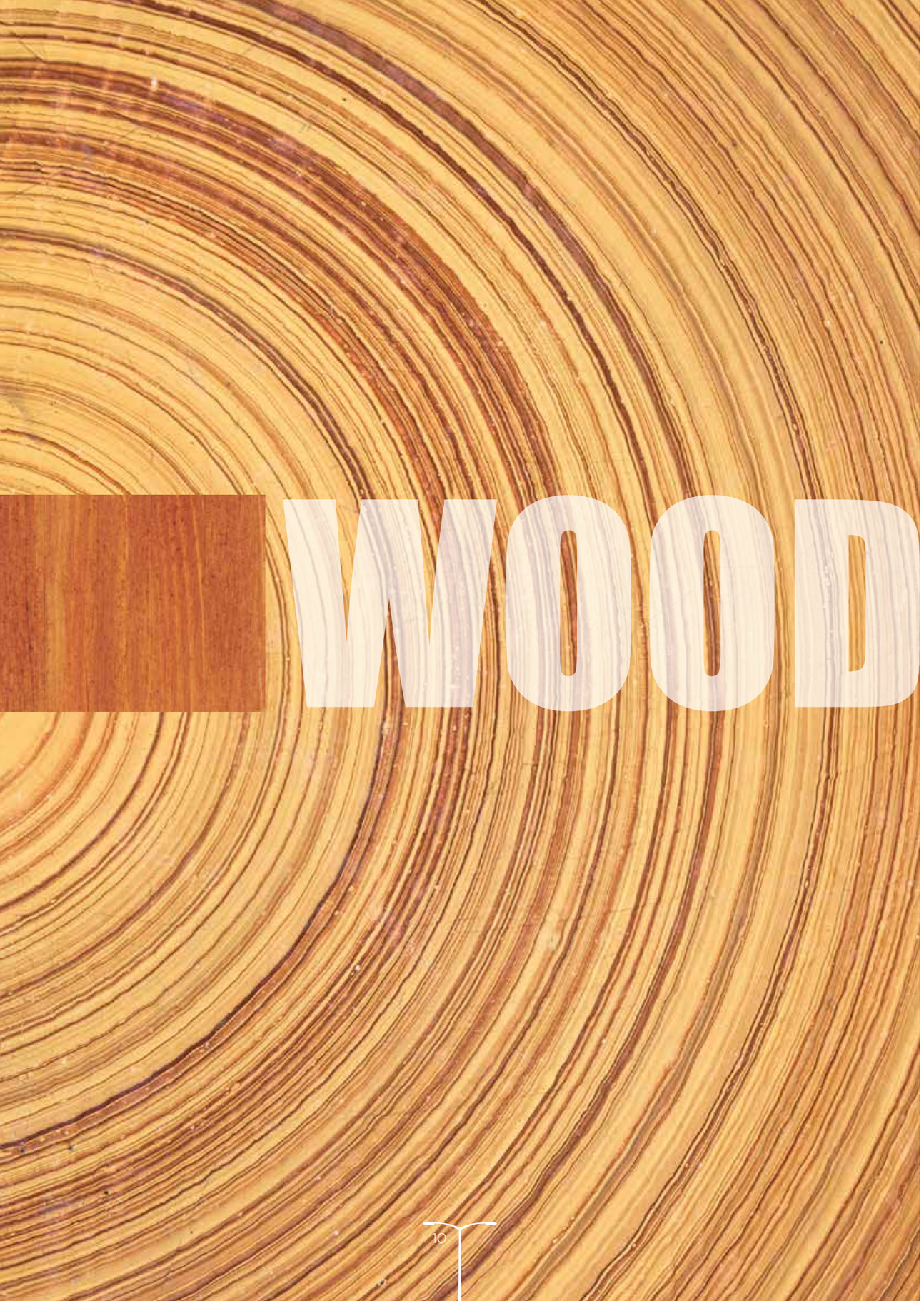
The growth season for trees in Finland is short. Coniferous tree species usually start to grow in thickness in Finland at the end of May, and the most rapid growth occurs between June and July. Annual length growth occurs over an even shorter period, which usually ends in August.

PEFC CERTIFICATE

PEFC (Programme for the Endorsement of Forest Certification) is an international forest certification programme that aims for ecologically, socially and economically sustainable forestry throughout the world. Approximately 10 per cent of the world's forests are certified and two-thirds of those (around 300 million hectares) are certified according to the demands of the PEFC.

PEFC certification is represented by a producer-dedicated logo on a product, product label or product-related documentation. A producer can obtain the right to use this logo when their company's operations are certified.

PEFC/02-31-141



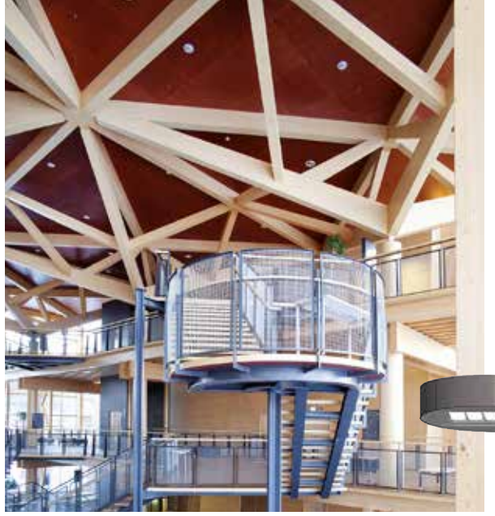
RAW MATERIAL

Glulam beams are made of sawn structural timber. These planks, called lamellas, are cut along the grain and then fingerjointed and glued together to the required size. The gluing is done with the heartwood facing outwards from the beam in order to prevent cracking when the timber dries and shrinks.

Slowly-grown coniferous tree species from the boreal forest zone offer dense wood fibres, which make the material dense and durable.

Tehomet glulam is manufactured according to Eurocode 5 of strength class GL28h timber. In case of extreme load cases, even higher strength classes can be adopted.

On request, we can provide poles manufactured of further enhanced weather-resistant materials to fulfill all the customer demands in extreme conditions.



CARBON FOOTPRINT

Generally, the less metallic components the lighting pole has, the lower the CO2 emissions are. Our wooden poles are manufactured in a carbon-neutral factory, where the environmental loads are reduced thanks to heat generated from air compressors being used to heat the factory, and the implementation of low consumption LED lighting.

Throughout its life cycle, from the extraction of raw materials to its final recycling, every product has an environmental impact. There are several factors which have a negative impact on the environment:

- Greater greenhouse gas emissions.
- Energy consumption.
- Production of hazardous waste.
- Impact on air (toxicity, acidification).
- Impact on water (acidification, toxicity).
- Depletion of the ozone layer.

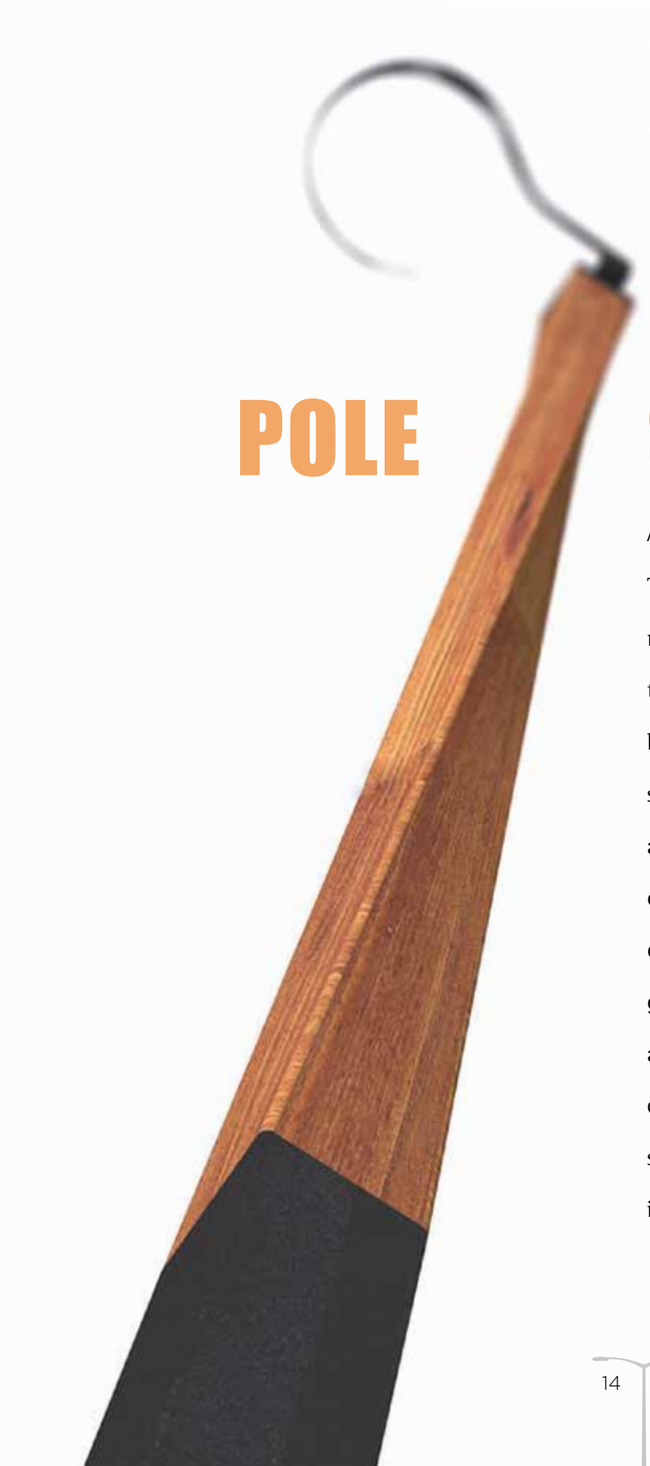
The scale of the task and the requirement set by the Kyoto Agreement (lower greenhouse gas emissions), has brought Valmont to focus initially on the carbon footprint of its products. The volume of greenhouse gas emissions is calculated throughout the life cycle of a product and is converted into CO2 equivalent to work out the carbon footprint. This varies according to the product assessed (diameter, height, materials, etc.).

Thus, in some cases, the choice of an alternative glulam timber may reduce the carbon footprint of your project by up to 40%. For an independent assessment, the Valmont Group has worked with the engineering consultancy REJLERS. Valmont is therefore able to provide the carbon footprint for each of their products as part of its Continuous Improvement Policy and as new products are designed. This is done:

- by using high-tensile steel for optimized designs
- by using waste recycling or treatment in its plants
- by optimizing.

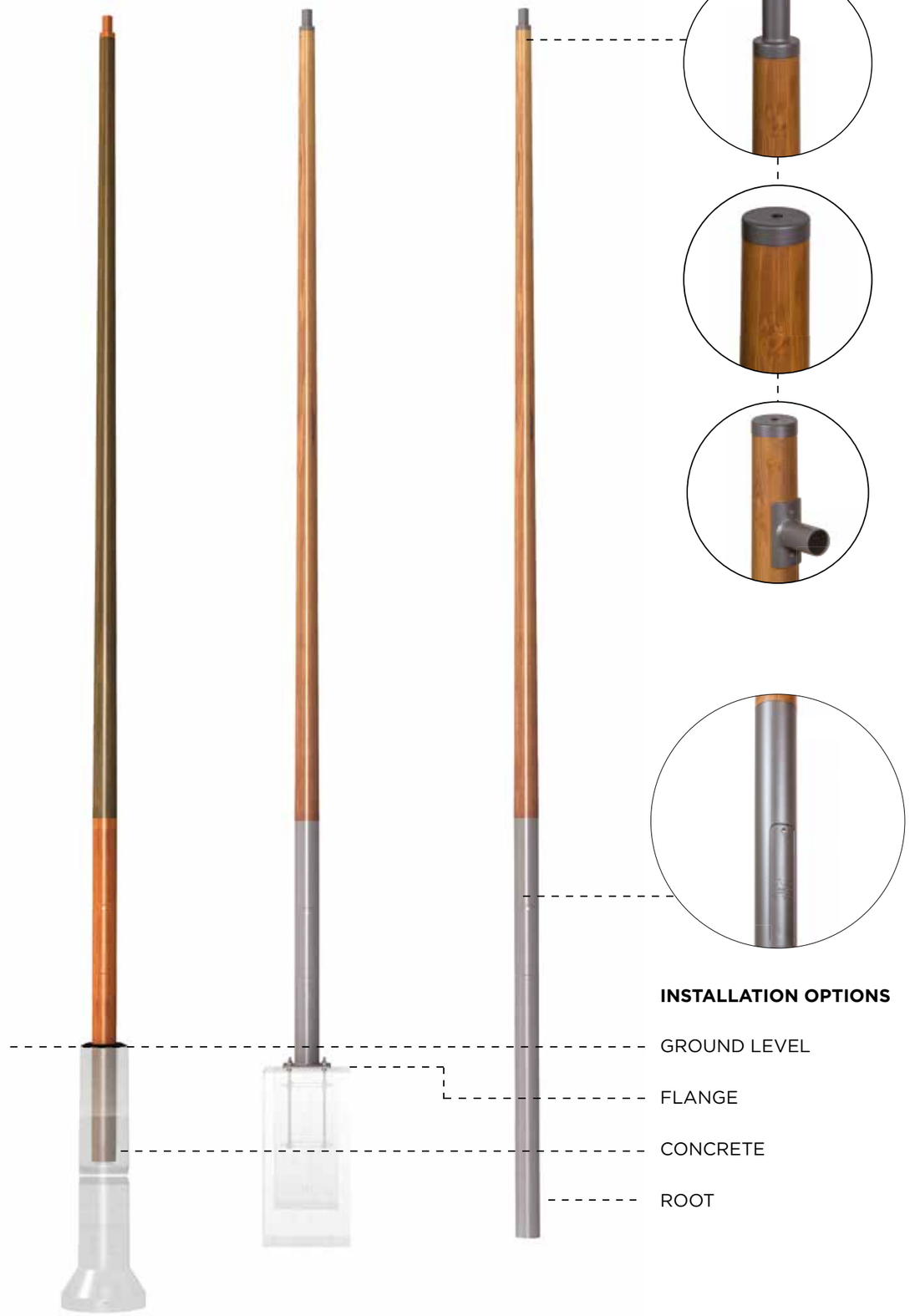
Our goal is to achieve the lowest environmental footprint possible for all your projects, whatever the material.

The Design from Finland mark indicates the origin of unique Finnish design and emphasises the importance of intangible work for Finland's success and employment.



POLE STRUCTURE

A pole is constructed of several components. The translucent-coloured wood shaft is manufactured of high quality glued laminated timber and is available in various shapes and lengths to be combined with the steel base and a spigot at the top of the pole or luminaire fixings along the pole shaft. Brackets, spikes and top caps are also available for installation at the top of the pole. Steel components feature hot dip galvanization and powder coating for longevity and perfect aesthetics. The base section has an easy access door for the gear and customer-specifiable installation options for anchor bolt installation or embedding.



PRODUCTION

Parikkala, Finland

Key Flag Symbol is a registered collective mark. It demonstrates that the product has been manufactured or the service has been produced in Finland, creating Finnish jobs.

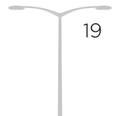
TEHTY SUOMESSA
MADE IN FINLAND

PEDESTRIAN

3-6m

PEDESTRIAN ENVIRONMENT

Typical pedestrian areas of use are streets, cycle paths, marinas and parks. These settings can be furnished with personalized and unique wooden lighting columns utilising different decorations and street furniture.



PALLAS

FAMOUS FINNISH ARCTIC FELL

Pallas is one of the most famous locations in Finnish Lapland. This national park has been popular travel destination for many decades.

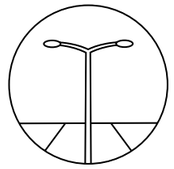
PALLAS

Cylindrical steel base, conical wood shaft.

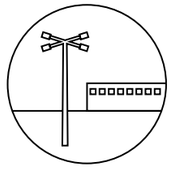
Pallas is a classic, elegant conical wooden pole. Stylish design is made to outlast changes in trends, and it suits different needs from park lighting to high mast area lighting. With the wide selection of colours and use of different luminaires, Pallas is available in numerous designs to perfectly match each project.

Pallas is a popular standard model, with deliveries all around the world.

PEDESTRIAN



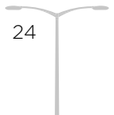
TRAFFIC



OPEN SPACE

PALLAS PEDESTRIAN RANGE

A range of Pallas poles are available, from 3 metre park lighting poles up to 10 metre high street lighting poles. The Pallas range can be equipped with various lighting arrangements and other additional options, such as infotainment panels, banner arms or benches.




TAIKIOMENOSSEN PÄIVÄKOTI

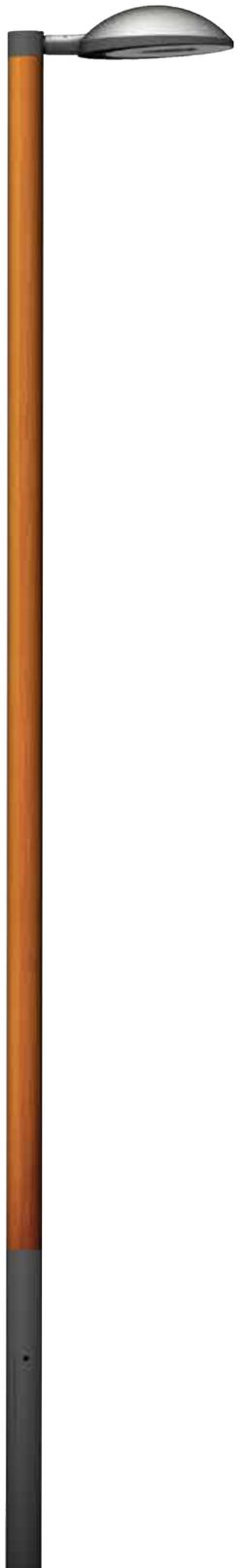
3m

4m

INARI

FELL AFTER FELL

Ivalo is the largest population centre in the municipality of Inari, and is neighbours with the popular resort of Saariselkä, which is probably named after scenes featuring countless fells.



INARI

Cylindrical steel base, cylindrical wood shaft.

The Inari is a straight and clean-shaped wooden pole, ideal for several projects and landscapes. The Inari can be complemented with different luminaires, that change the appearance to match the setting. More versatility comes with colouring options, which can either boldly highlight or discreetly identify the surroundings.

INARI PEDESTRIAN RANGE

The Inari range features park poles of 3 metres high up to street lighting poles of 6 metres. The poles accomodate beautiful post-top luminaires that are widely available for a range of different needs.

PEDESTRIAN


TYKK
NUKA'STORE

NORTHERN LIGHTS

The northern lights are one of nature's most amazing wonders. They are best experienced in Northern Finland. By area, Inari is the largest municipality in Lapland and it attracts thousands of tourists each year who look to the skies to see this magical cosmic play.

4m

4m

3m

RUKA

SOUTHERN ARCTIC FELL

The resort of Ruka is situated around Rukatunturi, a fell in Kuusamo. Ruka's forests carry a thick blanket of snow in winter.

3m

PEDESTRIAN

RUKA

Square steel base,
square wood shaft.

RUKA PEDESTRIAN RANGE

6
5
4
3
2
1
m

4m

4m

©Photo Julien Falsimagne

4m

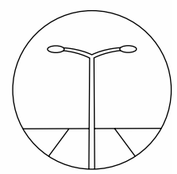
KOLI

NATIONAL LANDSCAPE

Koli Hill in North Karelia is regularly voted as the most beautiful view in Finland. This national scenery from Ukko-Koli is reason enough to make the climb up to top of the hill.

KOLI

PEDESTRIAN RANGE



TRAFFIC

PEDESTRIAN

Square steel base,
square conical wood shaft.

4m

IVALO

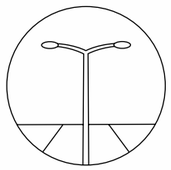
CLEAR WATER, FRESH AIR

Ivalo is the largest population centre in Inari municipality. It is surrounded by many clear Arctic lakes and ancient forests.

Square steel base,

IVALO

square to round conical wood shaft.



TRAFFIC

PEDESTRIAN

PEDESTRIAN RANGE

6
5
4
3
2
1
m

4m

4m

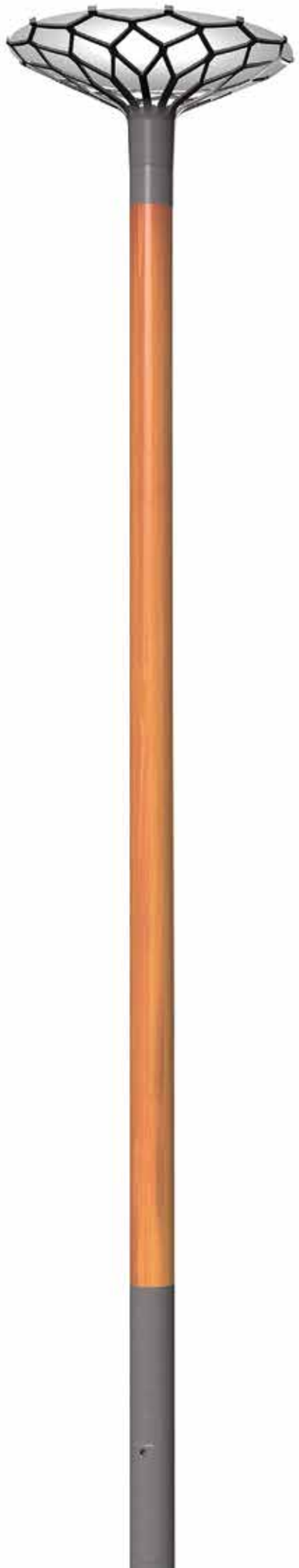
SPECIALITIES

BALLAD

ATHMOSPHERIC LAKE SAIMAA

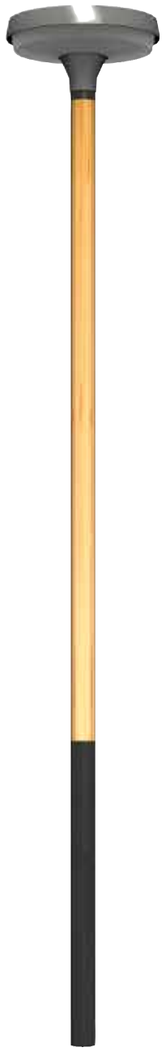
The magnificent Finnish nature wears a mystical veil on light summer nights, providing inspiration for a ballad...

BALLAD



PEDESTRIAN

PEDESTRIAN RANGE



Cylindrical steel base, cylindrical wood shaft, optimized sizing for post-top installations in pedestrian areas.

4
3
2
1
m

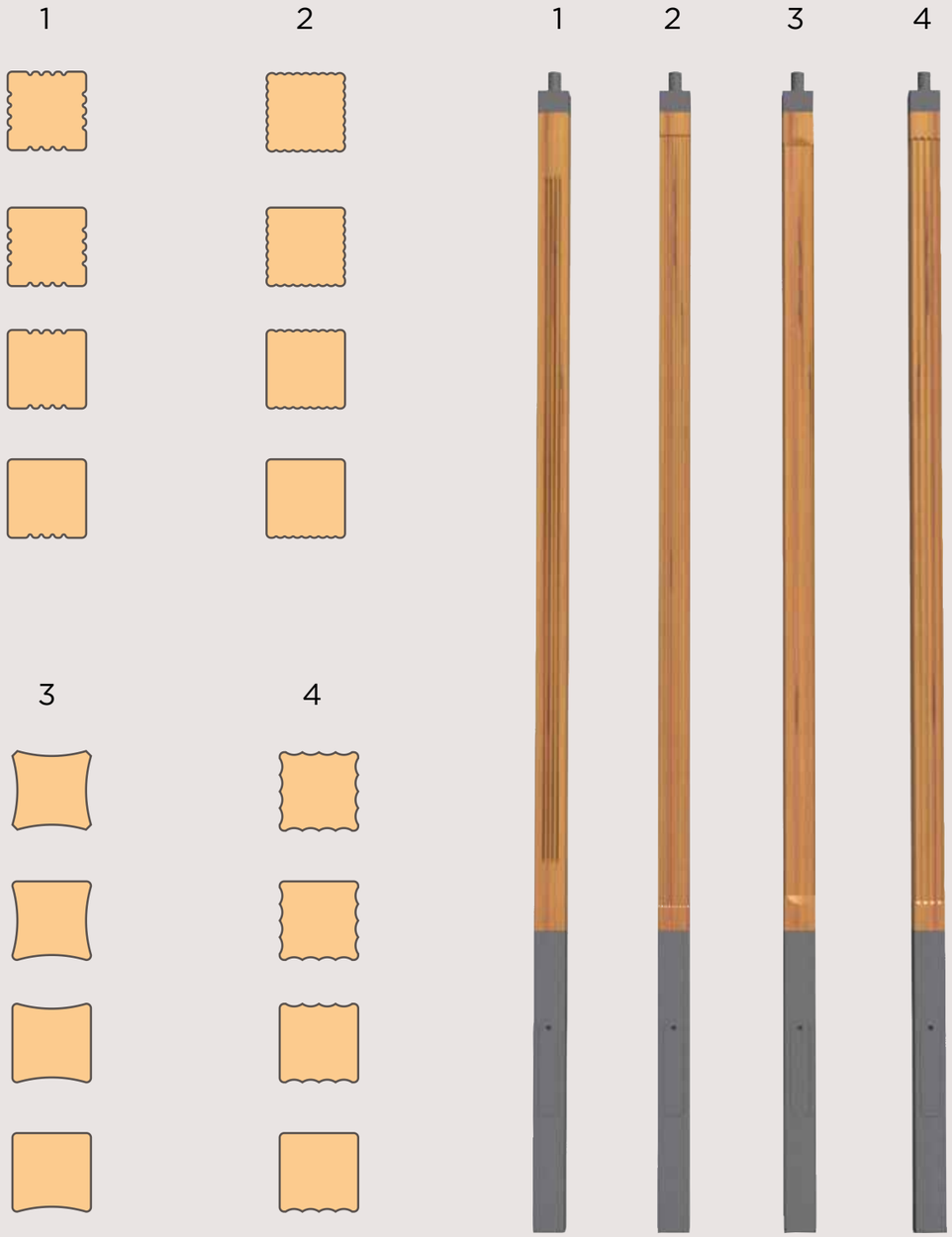
4m

RUKA PROFILE

Square steel base and square wood shaft with a variety of different longitudinal groovings and profiles, offering interesting dynamics between light and shadow.

4m

With profile for unique expression



4–6m

SEKA

MATERIALS' PLAY

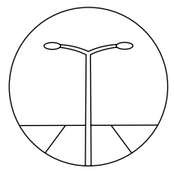
Nature consists of different substances: rock, sand,wood, water... all in a perfect harmony.

SEKA

EVOLUTION

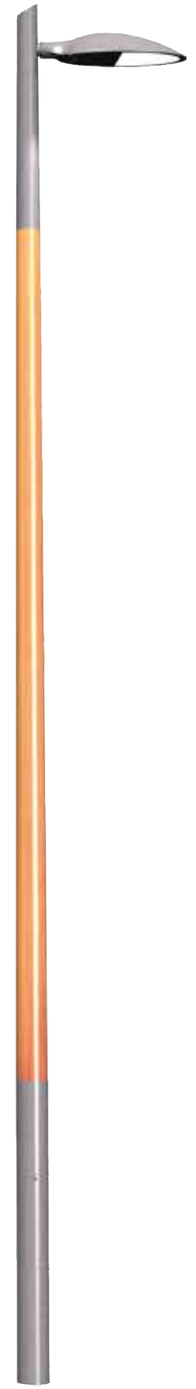
Cylindrical steel base,
conical wood shaft
with conical steel top.

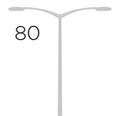
PEDESTRIAN



TRAFFIC

PEDESTRIAN RANGE






4m

4m

ONTELO

NATURAL CAVITIES

Trees are occasionally formed with cavities that are caused either by forest fires or by a bird that builds its nest in a hole.

PEDESTRIAN

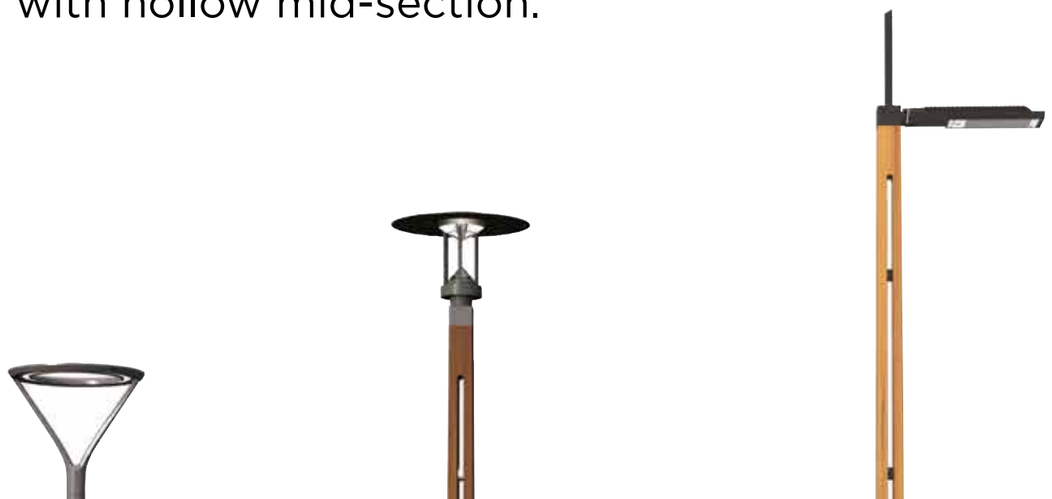
ONTELO

EVOLUTION

Ontelo Round with cylindrical steel base, sculpted conical wood shaft with hollow mid-section.

PEDESTRIAN RANGE

Ontelo Square with square steel base, sculpted square conical wood shaft with hollow mid-section.



4m

LEMPEÄ

SOFT SHAPES OF NATURE

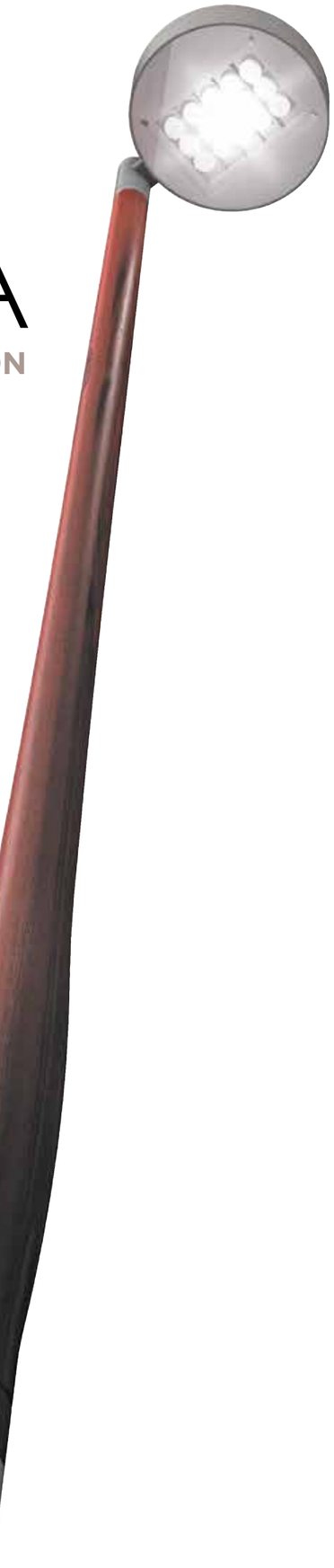
Most shapes in nature are round,
soft and tender. Natural.
Comfortable to the touch and sight.

LEMPEÄ

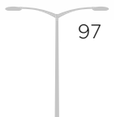
EVOLUTION

Cylindrical steel base, conical wood shaft with a gentle hump.

PEDESTRIAN



PEDESTRIAN RANGE

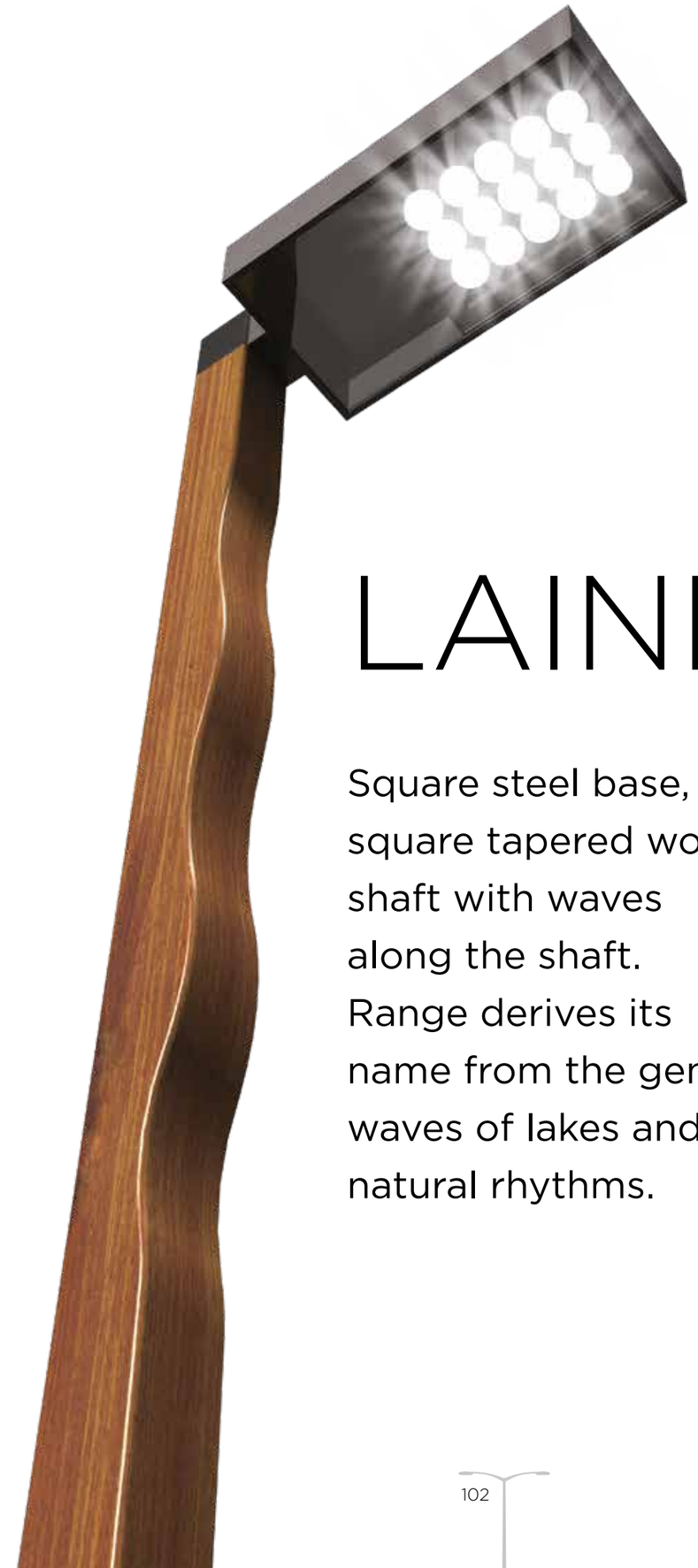


4m

LAINE

SLOW MOTION ON THE LAKES

Small waves on the water's surface create ever-changing patterns together with reflections.



LAINE

Square steel base, square tapered wood shaft with waves along the shaft. Range derives its name from the gentle waves of lakes and natural rhythms.

PEDESTRIAN

PEDESTRIAN RANGE

5m

KAISLA

REEDS ON FINNISH LAKES

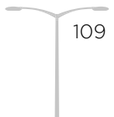
Finland is the Land of a Thousand Lakes. Reed species grow in these lakes with long, strong and resilient stems. The common reed's stem, with its many knots, looks like it consists of several different stems.

KAISLA

Cylindrical steel base,
cylindrical wood shaft
with reed like form.

PEDESTRIAN

PEDESTRIAN RANGE



4m

RYTMI
TEMPO

NATURAL
RHYTHMS

Nature features plenty of rhythm.

Light, surfaces and materials.

Rhythm brings joy to life.

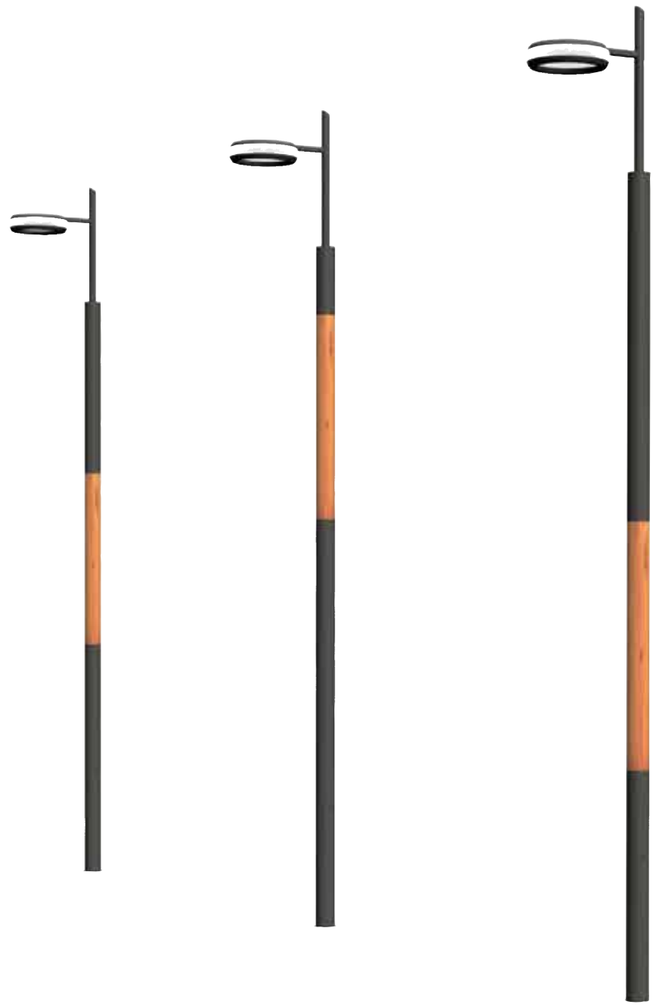
TEMPO

Tempo with square steel base, square wood shaft.

These ranges are a playful combination of different sections with variable lengths of wood and steel. This blend gives a rhythmic impression to pedestrian pathways.

PEDESTRIAN

RYTMI



Rytmi with cylindrical steel base, cylindrical wood shaft.

7
6
5
4
3
2
1
m

Pedestrian range in different rhythms.

RYTMI **PIANO**

The Rytmi Piano range features a 500 mm wood section at variable heights for unique aesthetics.

RYTMI **FORTE**

The Rytmi Forte range features a 1500 mm wood section in variable heights for unique aesthetics.


5m

Customized poles:

“PENTTI”

Customized poles:

PENCIL

Customized poles:
“DONGEN”

Customized poles: PALLAS

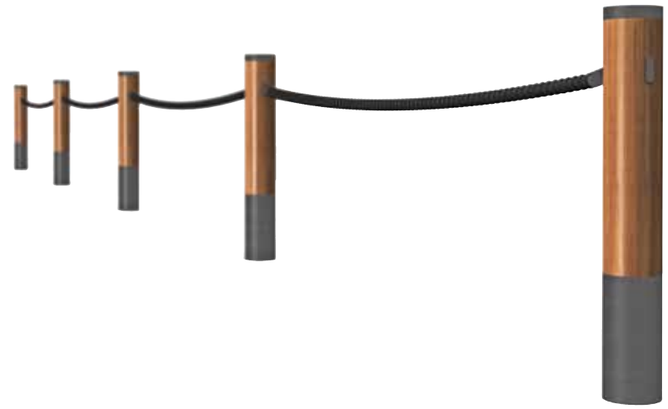
BOLLARDS

Bollards with basic shapes can also be manufactured.

The exclusivity of this range creates the finishing touch to your project.

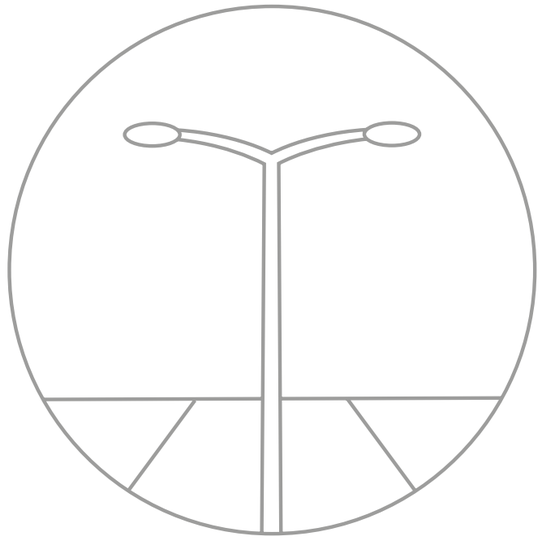
LEMPEÄ

ILTA



INARI

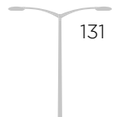
For further information regarding bollards and light head combinations (SGS curves, light sources, sockets etc.), contact your local sales agent.

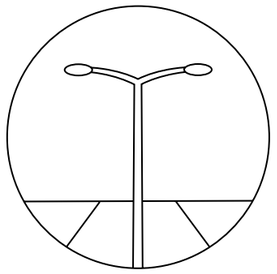


6-10m

TRAFFIC ENVIRONMENT

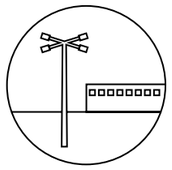
It’s not only pedestrian areas that benefit from wooden poles’ close-to-nature touch. As post-top installation rarely provides optimal installation opportunities for street lighting, a series of standard decorative arms is introduced. A conical shape is common to all models in a traffic environment, designed to reduce wind load on the pole.





TRAFFIC

PEDESTRIAN

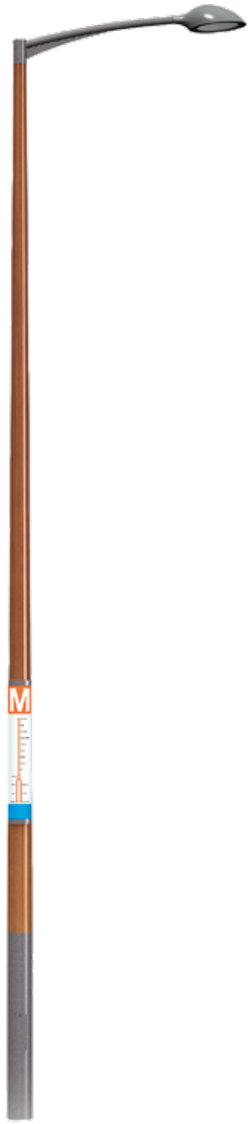


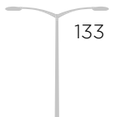
OPEN SPACE

PALLAS

TRAFFIC RANGE

Continuity from
pedestrian style.
Possibility to assemble
various decorative
arms to achieve
optimal lighting in
a traffic environment.





7m

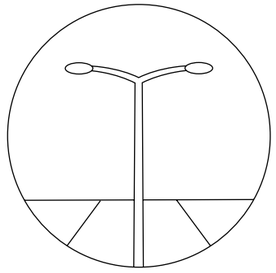
8m

6m

10m

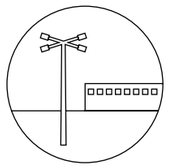
8m

KOLI TRAFFIC RANGE



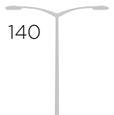
TRAFFIC

PEDESTRIAN



OPEN SPACE

A square
conical shape
can create new
looks compared
to the standard round
conical shapes
commonly used.

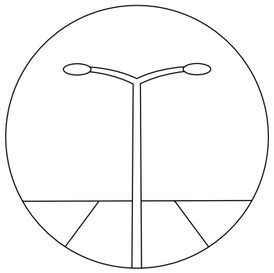


6m

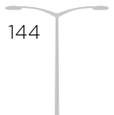
IVALO

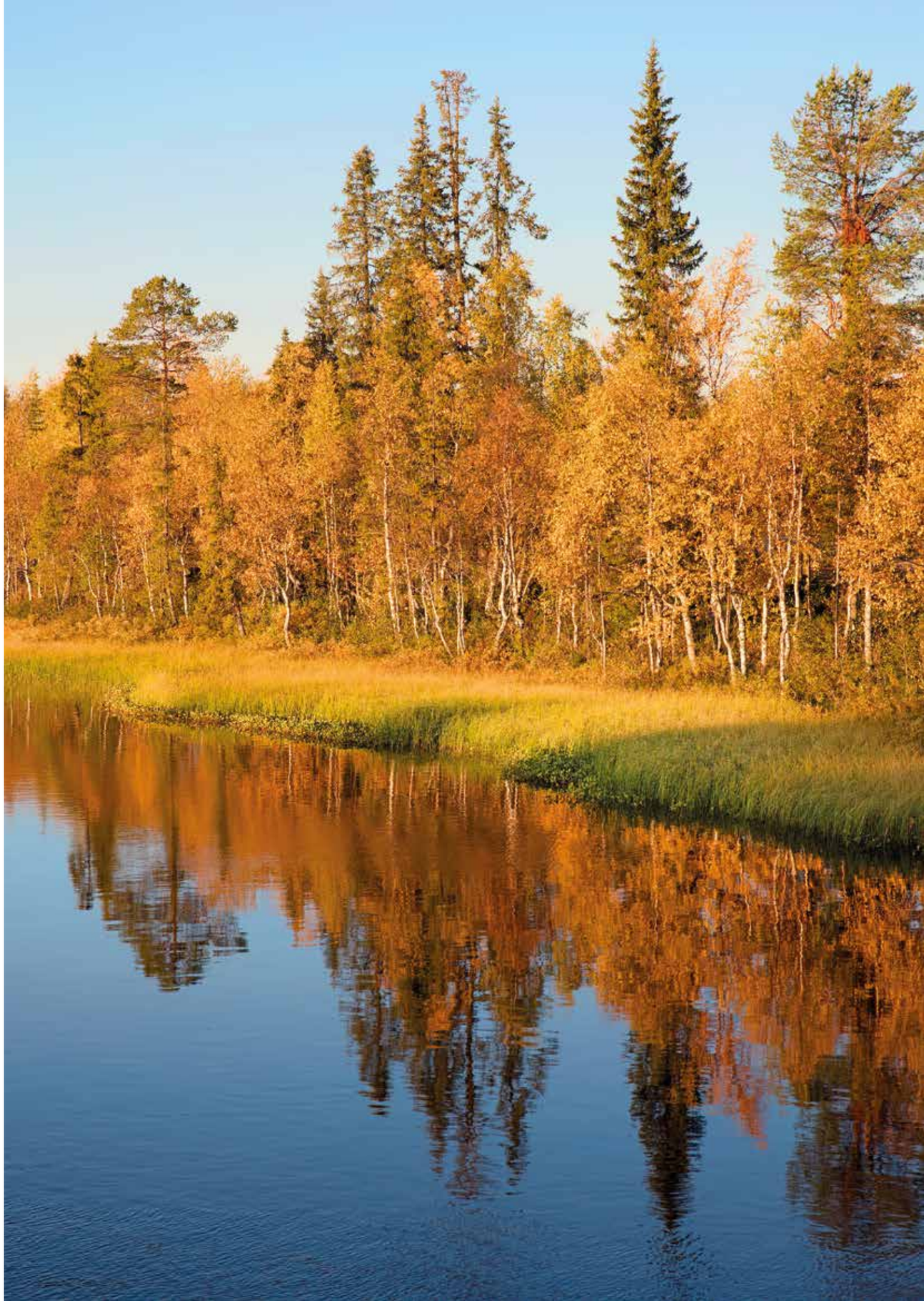
Interesting combination
of square and round
shape on a conical form.
Shaft turns seamlessly
from square to round.

PEDESTRIAN

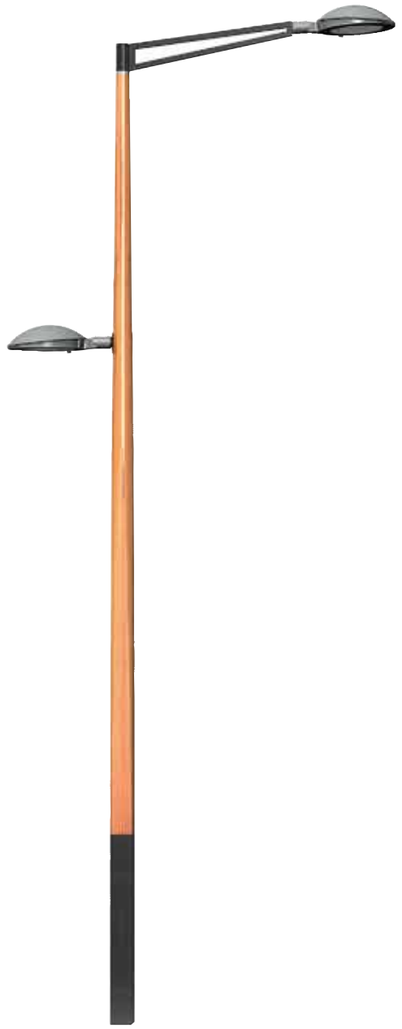


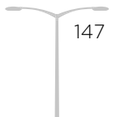
TRAFFIC





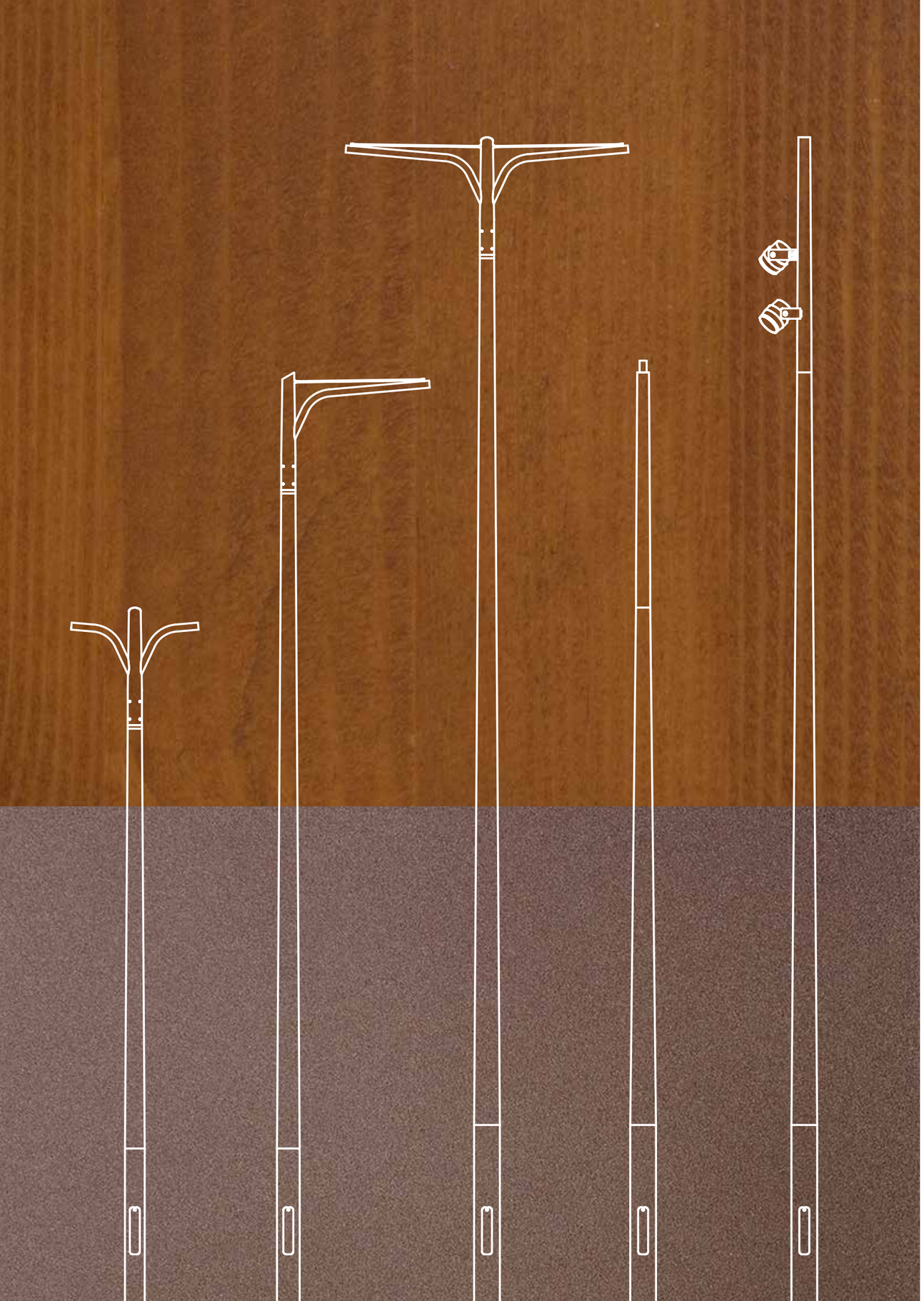
IVALO TRAFFIC RANGE



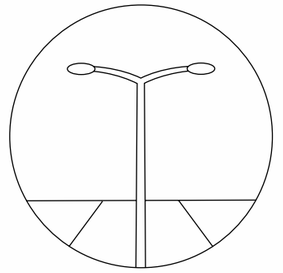


11
10
9
8
7
6
5
4
3
2
1
m

8m



PEDESTRIAN

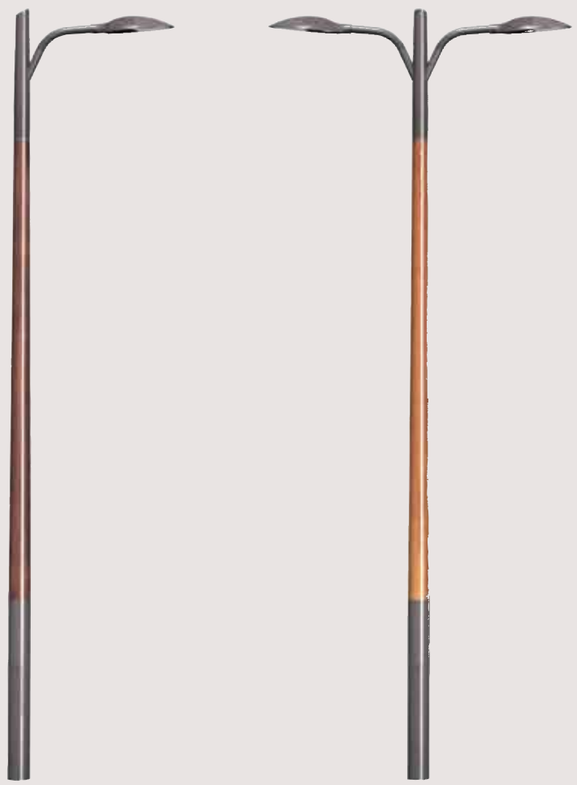


TRAFFIC

SEKA

SEKA TRAFFIC RANGE

Seka is a mix-up of wood and steel, adding more steel on top of the pole for a different look, while preserving an interesting combination of materials.



6m

6m

155

Customized poles: KEVO
16-EDGES

Customized poles: WILJAMI

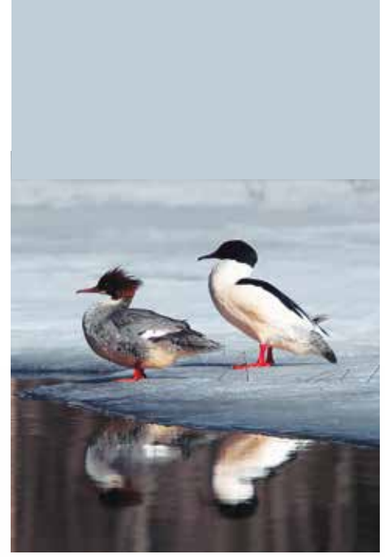
Customized poles: INARI

7m

5m

Customized poles:
RUKA

ARMS



Merganser

Simple timeless form with round tube.

Top installation, possible to use on most models.

Gull

Square tubes reaching up to the sky. Top installation,

possible to use on most models.

Seka

Seka arm dedicated

to Seka range.

Tikka

Top installation to square or round top.

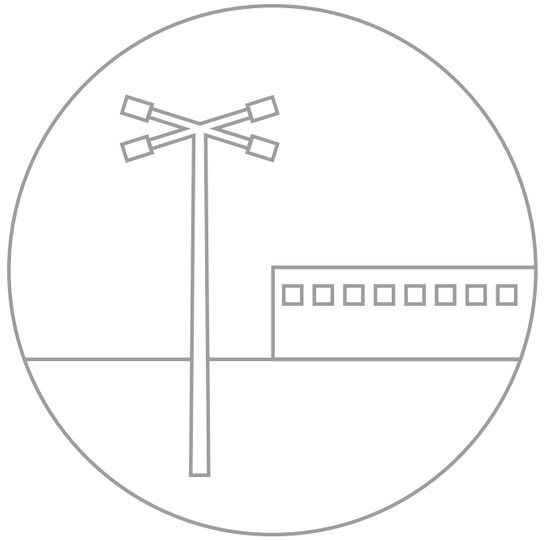
Pedestrian arm also possible.

Swallow

Square tube structure to be installed on shaft.

Possible to install in different heights on square

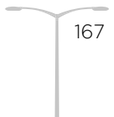
profile poles.



OPEN SPACE ENVIRONMENT

From large areas to small. From high masts to small poles. Open spaces can be covered with a variety of poles using multiple floodlights and gobos on one shaft. All Tehomet wooden pole ranges are suitable for open space installation. Typical open space areas include stadiums, parking areas, playgrounds, campsites, ski slopes, market squares and other urban areas.

3-24m



VARIATION
IN HEIGHTS AND MODELS

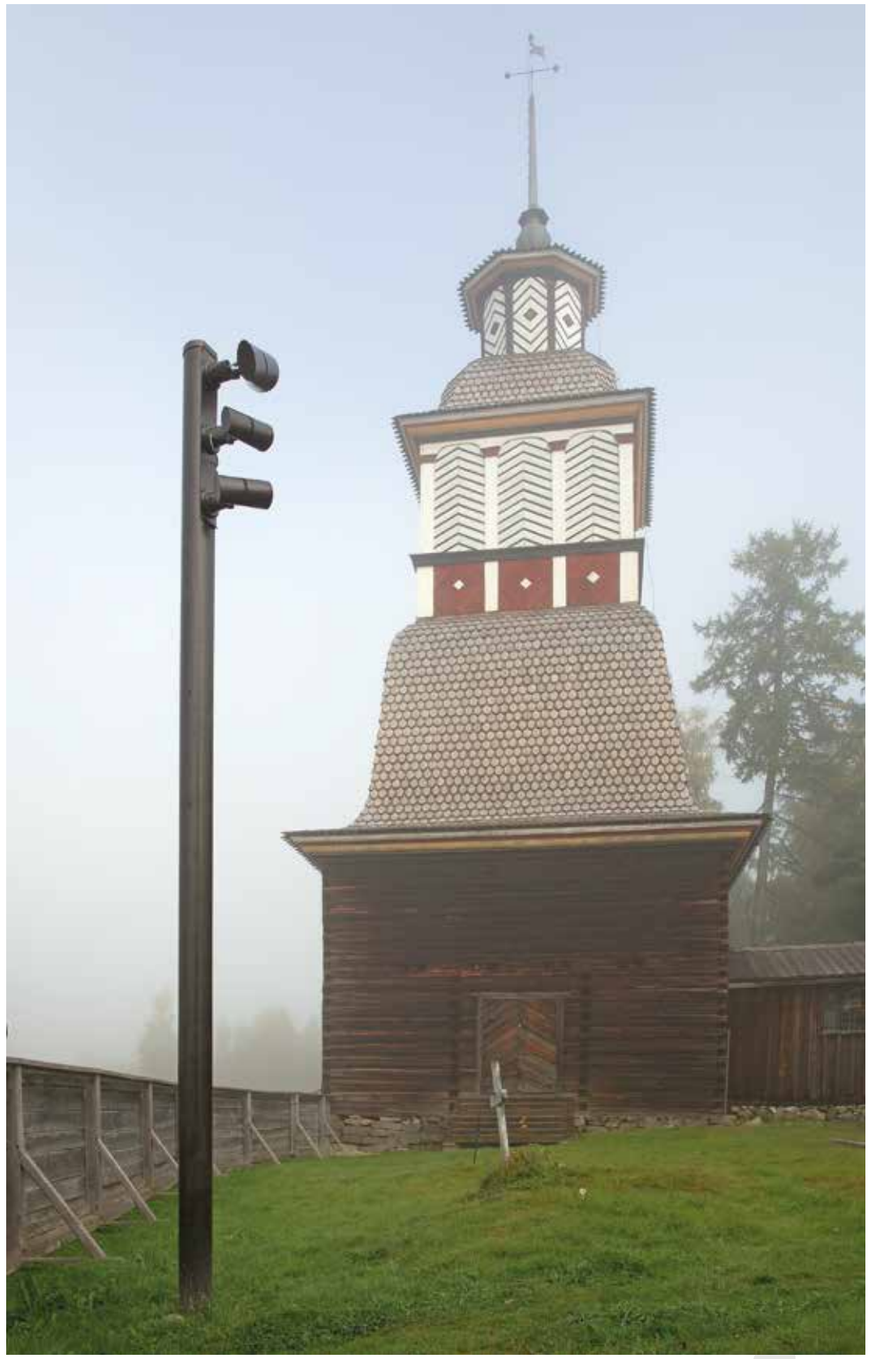
SINGLE POLES WITH VARIATION IN THE AMOUNT OF FLOODLIGHTS

3-12m

Cylindrical or square steel base, conical or square conical wood shaft. These poles can be installed with different numbers of floodlights on the pole. Installation direct to shaft or using universal SIIPI adapter.

8m

8m



4m

10m

12m

Customized poles

Photo Credit: Tomasz Majewski

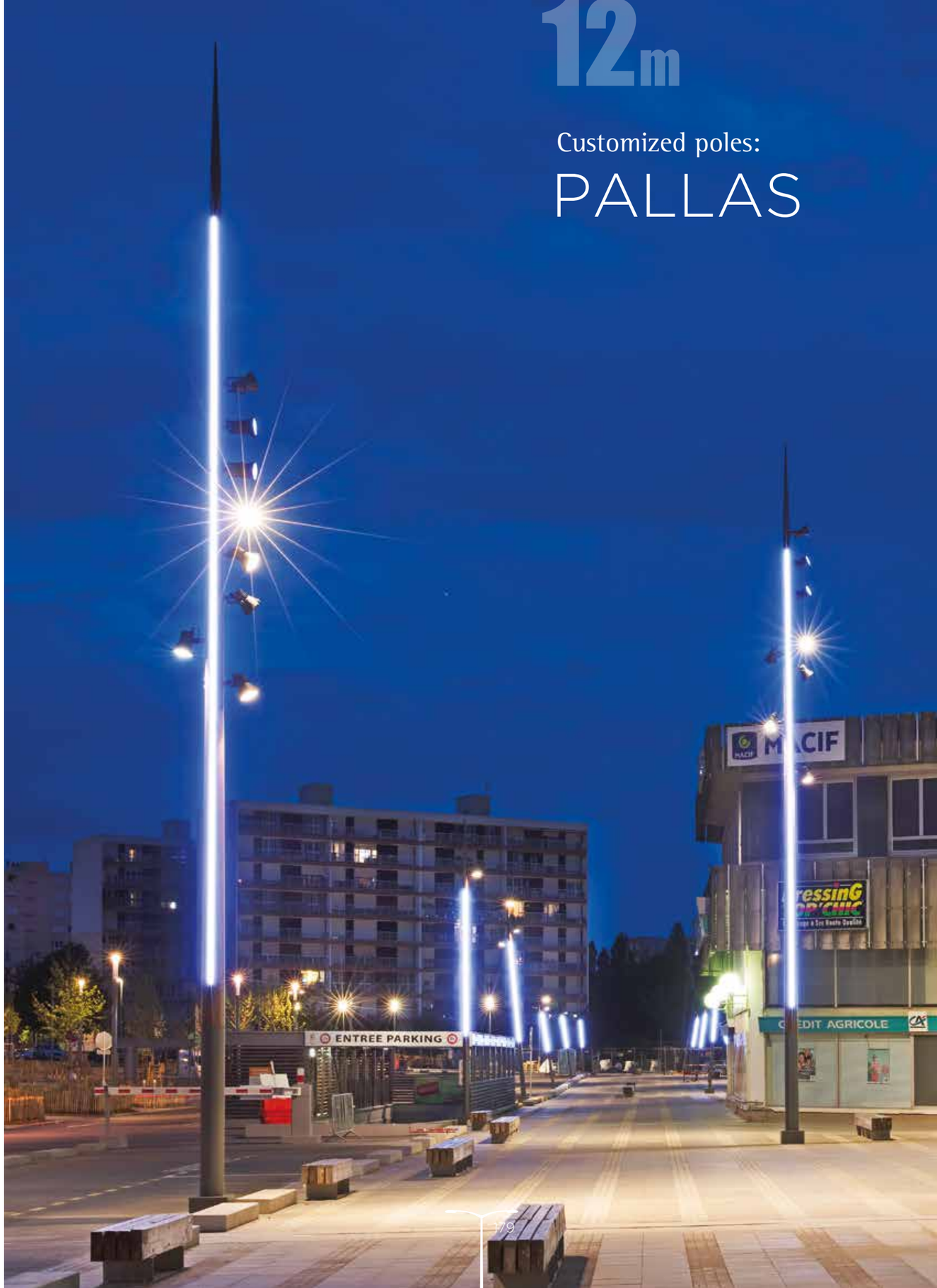
4m

Customized poles: INARI

12m

Customized poles:

PALLAS



HIGH MASTS, C-JOINT (2 section)
STRUCTURE 13-24 M

The round conical KARTIO or the square conical NELIÖ models are split into two sections with a steel joint. This enables taller masts to fit into a truck without the need for special logistics.

13m

DOUBLE MAST

High masts combined together in a ladder style with separate cylindrical or square steel bases. Special size single base with a service door also possible when large maintenance space is needed.

Pallas

Koli

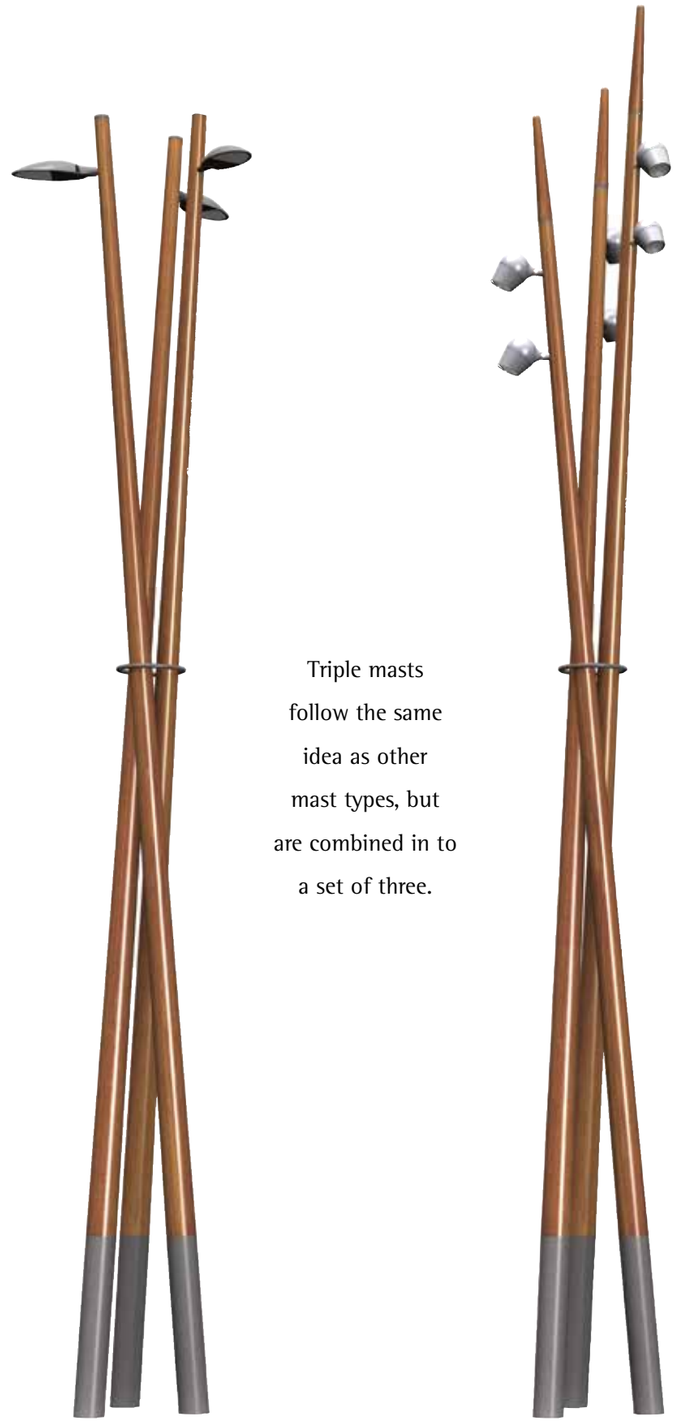
24m

8m

AARKI

Sometimes the most efficient way to install multiple luminaires onto a straight pole is an upright arm. Our Aarki models are available in different shapes providing various possibilities to install projectors to the poles.

TRIPLE MAST



Triple masts follow the same idea as other mast types, but are combined in to a set of three.

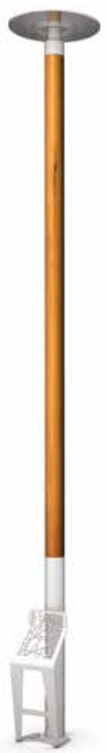
3D WOODEN
SURFACES

COPPER
RINGS

PERSONALIZATION

An important part of urban design is focusing on the local identity of cities, urban areas and the people who create the culture within. Lighting poles can reflect the surrounding culture and local identity with a personalized approach. This means the creative use of different elements such as graphics, engravings, additional features, customized lighting and structures. Tehomet can provide this service through its design team to make your project even more desirable and evocative to citizens.

To achieve a personalized approach for your project we offer a diverse and creative toolbox for customization.



URBAN FURNITURE

INTEGRATED
LIGHTING

SURFACE MOUNTED MASKS FOR
COMMUNICATION AND AMBIENT LIGHTING

LASER ENGRAVING

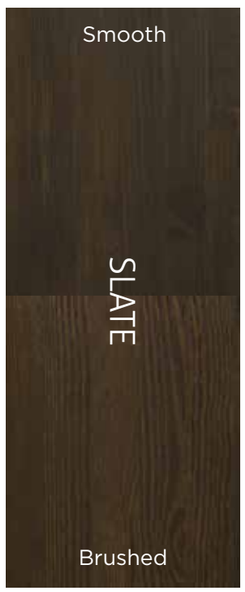
Pleasant

COLOURS

from nature

SURFACE TREATMENT

Wood is treated against ageing and natural enemies of wood, such as blue stain fungi, mildew and rot. As a natural material wood is expected to expand and shrink as the seasons and moisture change. Our elastic coating is designed to adapt to this behaviour of wood without cracking. Several layers are applied to give wood its final colour and to protect against UV radiation to maintain desired looks. Consistent coating is achieved on by using spray gun and modern drying chamber.



Due to printing techiques, the colours presented may differ from reality.

TEHOCOAT®

Our Tehocoat® coating ensures high quality for surface finishing.

Powder coating is a fast, durable and environmentally friendly solution. Coating powders contain no volatile organic compounds and can be used to obtain a durable surface resistant to mechanical and chemical abrasion.

In addition to powder coating, our paint shop can also apply wet paints and Plascoat thermoplastic coatings, and utilize modern solutions to produce different kinds of textures.

POWDER COATINGS

SILVER GREY

TOUNDRA 03

MARS

DARK BRONZE

GREY 900 SAND

GRAPHITE GREY

Due to printing techiques, the colours presented may differ from reality.

BEHIND THE POLES

TEHOMET - A VALMONT COMPANY

Tehomet is the Nordic countries' largest manufacturer of custom steel and wooden lighting poles and high masts. Established in 1979, the company has been based in Kangasniemi, Finland, throughout its history. In 2005, Tehomet Baltic was founded in Estonia, to serve customers in the Baltic region. Tehomet became part of Valmont Group in spring 2007.

Wood production began in 2007 in Parikkala, a town with a population of 5.200 located in the region of South Karelia near the Russian border. The production site is located in the heart of the forest. It is equipped with all the necessary technology for the production of lighting poles, and is staffed by local employees.

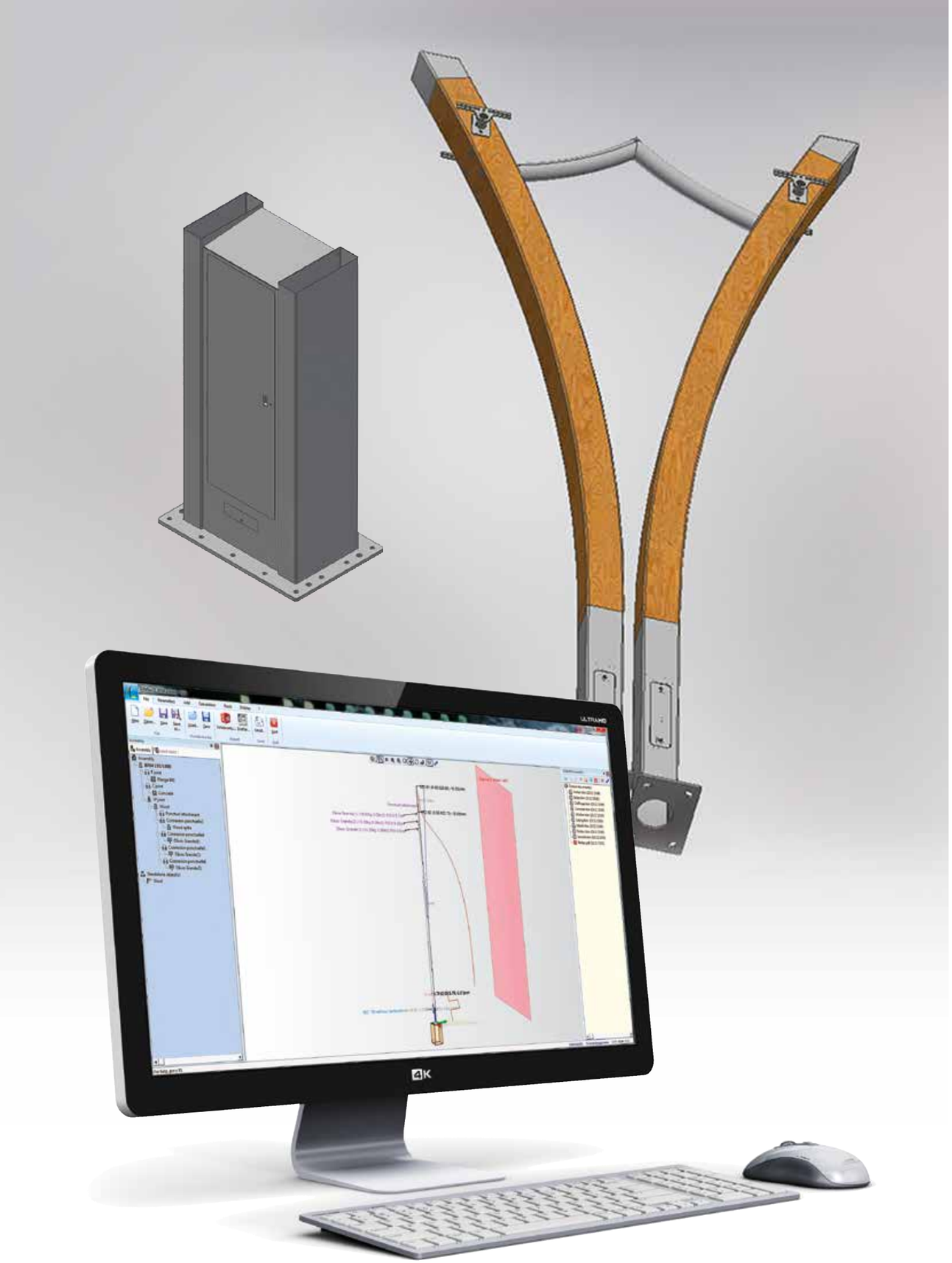
Wooden poles production in Parikkala.

Tehomet decorative steel poles production in Kangasniemi.

Steel poles production in Kiiu, Estonia.

VALMONT INDUSTRIES, INC.

Valmont Industries, Inc. is the world's leading designer and manufacturer of metal poles. The company is listed in the United States on the New York Stock Exchange. In addition to poles, Valmont manufactures products for the needs of wireless communications and public utilities. Its product range includes special lighting poles and masts, irrigation equipment for agricultural use, and miscellaneous support structures. Valmont is also a supplier of steel tubes and coatings.



RESEARCH & DEVELOPMENT

Over the years Tehomet has developed long-term collaboration with two Finnish research centres of expertise recognized throughout Europe:

- VTT Technical Research Centre of Finland Ltd is the leading research and technology company in the Nordic countries. www.vtt.fi

The expertise of this engineering unit covers various sectors, including the forest industry. It provides assistance to industries in various fields such as R&D, auditing, certification and process control.

- South-Eastern Finland University of Applied Sciences. www.xamk.fi

In Mikkeli, this university specialises in the fields of materials technology and the environment. Our products are tested in their laboratory dedicated to wood technology.

DESIGN

The goal of the industrial design process is to develop products in a way that is mutually beneficial for both the end user and the manufacturer, and to strike a balance between form, materials, manufacturing techniques, transport, installation, maintenance, aesthetics, and of course, cost. Industrial Design plays a major role in the creation of urban lighting furniture.

Tehomet has been recruiting industrial designers since 2006. As well as their internal role in the company, they are also the essential interface between customers, sales teams, engineering offices and production facilities.

ENGINEERING

From design to production, each wooden product is systematically developed and assessed with regard to the aesthetic, technical, economic and environmental criteria. Our engineering department is dedicated to ensuring that you get the most appropriate and validated solution for your wooden project.

Wooden poles and masts are subject to various weather conditions as well as wind and weight loads, influencing the number of lighting fixtures and possibly other additional equipment used. To ensure the capacity of the lighting support structure, Valmont has developed its own PAUL software to calculate and guarantee the resistance of its poles and masts in respect of more than 20 international standards and regulations. In the absence of valid regulations and basics for CE markings, all pole calculations are based on regulations EN 40 (lighting columns) and EUROCODE 5 (design of timber structures).

LOGISTICS

Well-packed and protected poles are shipped on pallets all over the world, in partial loads or full trucks when delivered to Europe. Overseas deliveries are usually dispatched in shipping containers. Air freight is also possible when short transportation times are required.

Tehomet wooden poles have been
delivered to more than thirty countries around the world.

Certificate
No. 5674-05

Inspecta

+

Inspecta Sertifiointi Oy has granted this certificate to

Tehomet Oy
Parikkala

The certificate verifies that the chain of custody of wood based raw material complies with standards

PEFC ST 2002:2013, PEFC ST 2001:2008 v2

Certification covers

Manufacturing of decorative wooden lighting columns.
(Percentage based method)

The certificate is issued on 2017-12-27
(first issue 2009-08-14).
The certificate is valid until 2022-12-28.

Mikko Törmänen, Managing Director

The certificate is valid on condition that the chain of custody
remains in compliance with the aforementioned standard and the General Regulations ABC 750.
The validity of the certificate can be verified on the Internet at www.inspecta.fi

IQNet
MEMBER

ORGANISATION
CERTIFIED BY
Inspecta
PEFC CHAIN OF CUSTODY

FINAS
Finnish Accreditation Service
S005 (EN ISO/IEC 17065)

Inspecta Sertifiointi Oy
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FI-00581 Helsinki, Finland
Tel. +358 10 521 600