kapsch >>>
challenging limits

Green Gantry.

Sustainable way of roadside infrastructure for greener and cleaner traffic environment.

November 2021/ Katharina Rynesch

Green Gantry.

Pioneering your way to sustainable roadside infrastructure for greener and cleaner traffic environment.

Achieving carbon neutral status with Green Gantry.

Your contribution to the Green Deal.

CO_2 saving.

Saves you tons of CO_2 compared to a steel based gantry.

Eco-friendly.

Is made of wood. No chemical treatment needed.

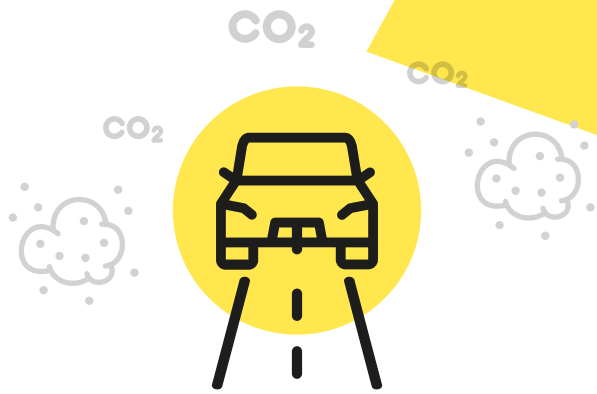
Competitive.

Fulfils the Eurocode standards for stability, durability & security.

Good decision.

How you and your customers will benefit from Green Gantry.

You reduce your CO_2 footprint in delivery, implementation & operations. You´re a contributor to Green Deal and healthy environment.



Taxonomy regulation starts in February 2022.

Financiers & investors tend to invest just in green fonds. Get ready for green fonds!

For your customers and users will the sustainable and green solutions become an important evaluation indicator.

Be pioneer! Wood instead of steal while boosting regional economy & using flexible module-based gantry concept.

The advantages are obvious: cost and design.

Who said that the sustainability doesn't work?

01

Cost savings

In material, planning efforts and infrastructure resources

02

Modular concept

Walkable and non-walkable;

Fixed foundation or jersey barriers

03

Variability of designs

Combination of steel and wood according their optimal characteristics;

Customization (planking, logo, etc).

Wood makes all the difference.

Wood is a suitable material for a roadside construction.

Always deliverable.

01 Locally available type of wood = quick delivery.

Long lasting.

02 Easy operations and durable thanks to constructive wood protection against water, ice and snow. No chemical treatment needed.

Flexible design.

03 Highly machinable, allows all kinds of shapes and sizes. Stable gantries up to 35 meters.

Circular economy.

04 No high-energy fossil fuels in the production, it can be grown & regrown and is biodegradable.

Green Gantry reduces CO_2 footprint. Provably.

Calculation example of Green Gantry.

∨ CO_2 in production

1 t of steel = 1,8 t CO_2*

1 m³ wood stores = -1 t CO_2

∨ CO_2 in material

17 t steel gantry: 1,8 t CO_2*= 30,6 t CO_2

22 m³ wood gantry: -1 t CO_2 = -22 t CO_2

∧ Total CO_2 savings

Wood vs. steel gantry: -53 t CO_2

Saving up to 53t CO_2 with only 1 Green Gantry!

One wooden gantry (3+1/3+1) can save up to 53 t CO_2 compared to a steel one.

*Source: https://www.mckinsey.com/industries/metals-and-mining/our-insights/decarbonization-challenge-for-steel

Your questions, our answers.

- **Can a wooden gantry burn?**
- **Does the salt harm a wooden gantry and its stability?**
- **Is a wooden gantry maintenance-intensive?**
- **Is a wooden gantry sufficiently robust and stable?**
- **How durable is a wooden gantry?**
- **How competitive is a wooden gantry?**

Your questions, our answers.

Optional Subheading in one line.

Stable, durable, certified and sustainable!

Can a wooden gantry burn?
Yes. But with a predictable burning rate in mm/hour. Depending on fire protection rate profile dimension is selected.

Does the salt harm a wooden gantry and its stability?
No, when a constructive wood protection against water, ice and snow is applied.

Is a wooden gantry maintenance-intensive?
Minimal. Inspections once per year. No chemical painting. Scratches do not matter.

Is a wooden gantry sufficiently robust and stable?
Parameters defined in standards. To protect drivers and the construction crash barriers shall be installed.

How durable is a wooden gantry?
With our design minimum lifetime of 30 years possible

How competitive is a wooden gantry?
Cost savings in material, planning efforts and infrastructure resources.

Your questions, our answers.

Gantry attributes.	***Steel. Currently used.***	***Wood. The future.***
Fire behaviour.	Unstable fire behaviour. Fire transmission through heat conduction possible.	Predictable burning rate in mm/hour. Depending on fire protection rate profile dimension is selected.
Weather resistance.	Zinc / galvanization.	Constructive wood protection against weathering. Greying is a natural process and does not affect the lifetime.
Operational Lifetime & Maintenance	Depending on steel type. Up to 75 yrs (galvanized). Inspections once per year. Corrosion / scratches need to be fixed large-scaled.	Depending on wood protection. With our design minimum lifetime of 30 years possible. Inspections once per year. Scratches do not matter.
Crash-stability	Parameters defined in standards. To protect drivers and the construction crash barriers shall be installed.	Parameters defined in standards. To protect drivers and the construction crash barriers shall be installed.
Material.	Most available, cheapest steel types S235JR, S355J2	Glue laminated timber. Usage of local available type of wood possible.
Deformation, vibrations, loads, etc	Design considers max. allowed deformation according to standards.	Design considers max. allowed deformation according to standards.
Standards (security, impact force, static)	Eurocodes #0-9 are effective. #3: Design of steel structures.	Eurocodes #0-9 are effective. #5: Design of timber structures.

Your questions, our answers.

Gantry attributes.	***Steel. Currently used.***	***Wood. The future.***
Co_2 footprint.	1,85t CO_2 emissions / t *	Wood is a carbon storage: 1m³ absorbs 1t CO_2
Re- & Upcycling	Steel can be re-used up to 100% but requiring a high amount of energy.	Wood can be re-used 100%. Circular economy: trunk wood / laminated timber / sawn timber / wooden furniture / particleboard / paper / pellets and finally for biomass energy.
Processing.	Restrictions of galvanization basins to 15m. Rolled steel limited to 8-12m. Connection via welding or screwing.	Laminated wood allows size of up to 60m. Connection via dowels, bolts, glued-in rods or self-tapping screws.
Certifications.	The whole steel structure is declared; as a basis for CE-labelling (if demanded)	Almost every building component of the wooden gantry is CE-certificated; thus, in the European Economic Area there is no need for a certification of the whole construction itself.
(Overall) cost	As with steel, wood prices are subject to fluctuations. However, the current tense situation on the steel market (as of November 2021) and the future pricing of CO2 make wood an even more favorable building material.	

*Source: https://www.mckinsey.com/industries/metals-and-mining/our-insights/decarbonization-challenge-for-steel

References: timber bridges in traffic environment.

Examples of sustainable mobility infrastructure.

Wildlife crossing bridge – Switzerland

Source:
www.timbatec.com/en/aktuelles/meldungen/8087175055-Rynetel.php

Bridge for pedestrians and cyclists – Germany

Source:
www.swedishwood.com/publications/wood-magazine/2018-3/s-shaped-bridge/

Traffic bridge – Canada

Source:
www.tac-atc.ca/sites/default/files/conf_papers/stantec_complete.pdf

References: timber constructions.

Examples of timber constructions in combination with steel and / or concrete.

Crossrail Station Canary Wharf – Great Britain

Source:
www.wiehag.com/en/references/canary-wharf-crossrail-station/

HOHO – Austria

Source:
www.hoho-wien.at/en/

Pyramidenkogel - Austria

Source:
https://www.pyramidenkogel.info/en/

Kapsch TrafficCom– At a Glance.

Competences.

Consultation, development, creation, commercial and technical operation.

Market focus.

Our offering encompasses solutions in tolling and traffic management. Regionally the focus is on Europe, the Americas and Oceania.

Solutions.

Our end-to-end solutions cover the entire value chain of our customers as a one-stop shop, from components and design to the installation and operation of systems.

Global presence.

Implementation of transport systems in more than 50 countries globally.

Leading in research and development in more than 25 offices worldwide.

Our Future – Strategy until 2027.

Our identity.

Kapsch TrafficCom is a globally renowned provider of end-to-end transportation solutions for a healthy world without congestion.

Our goals.

Kapsch TrafficCom is recognized as a thought and innovation leader in the industry.

We have revenues of more than EUR 1 billion and thereby grow stronger than the market.

Our Mission.

Creating innovative transportation solutions for sustainable mobility to enable users to arrive at their destination conveniently, on time, safely, efficiently, and with minimal environmental impact.

Our Vision.

Challenging the limits of mobility for a healthy world without congestion.

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