



This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement No 308313

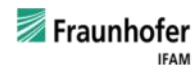


ZEPHYR

Zero-Impact Innovative Technology In Forest Plant Production

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Zero-Impact Innovative Technology In Forest Plant Production

Instrument: *FP7, Collaborative Research Project*

Total Cost: 4,284,275 € - EC Contribution: 3,438,252 € - **Compulsory
35% Budget to SMEs**

Consortium: 14 partners (7 SMEs) from 10 Countries

Project Coordinator: Tuscia University – DAFNE Department (Italy)

Project Web Site: www.zephyr-project.eu



Valoya

exergy

robosoft

advanticsys

azorina



CometArt

What does « Innovation » mean?



Innovation is commonly intended as the process of translating an idea or invention into a **good or service that creates value or for which customers will pay.**

To be called an innovation, an idea **must be replicable at an economical cost** and must satisfy a specific need.

What does « Innovation » mean?



Innovation differs from invention in that innovation refers to the use of a better and, as a result, novel idea or method, whereas invention refers more directly to the creation of the idea or method itself.

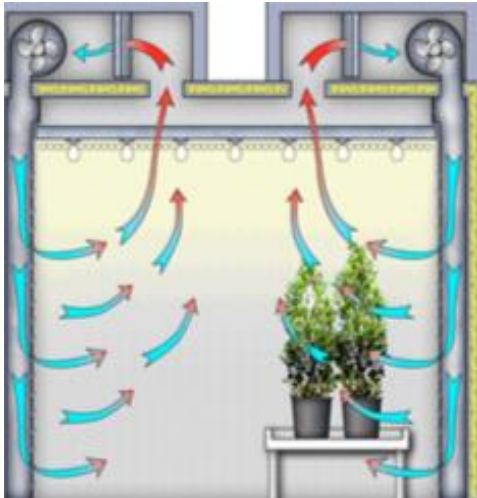
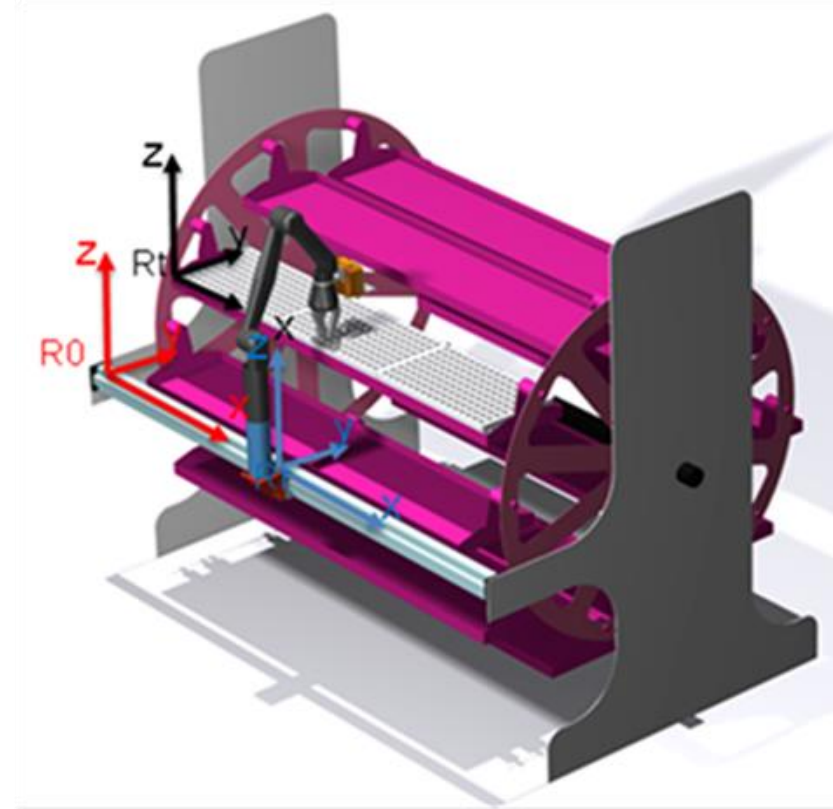
Innovation differs from improvement in that innovation refers to the notion of doing something different rather than doing the same thing better.

Ordinary “static” growth chambers:

- Light, temperature and humidity are not homogeneous for all the plantlets;
- Low number of plantlets

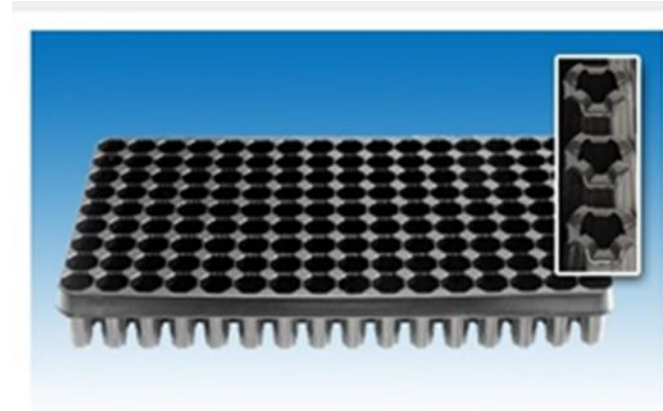
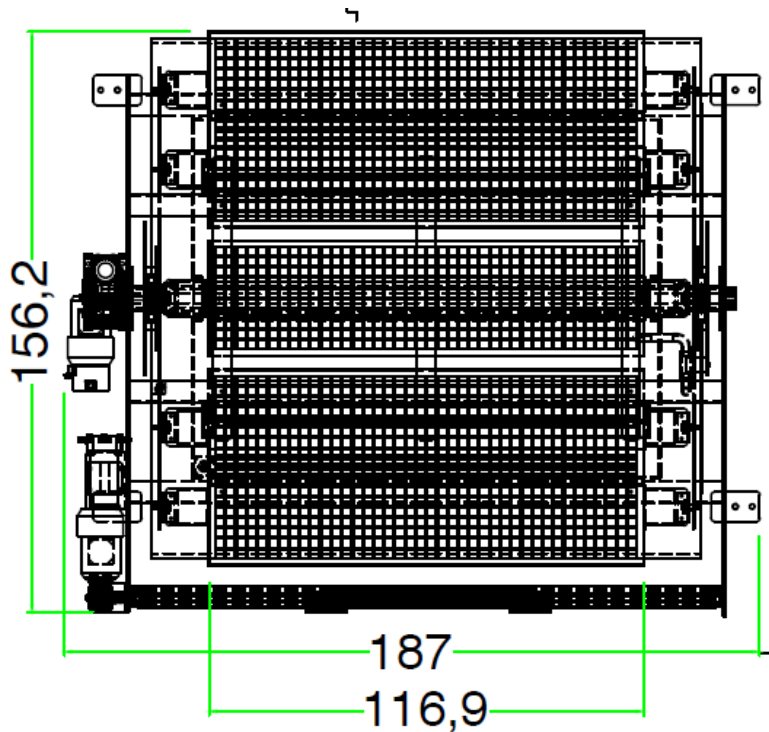


ZEPHYR Concept





Surface saving



Dimension of one tray = 310x530 mm; Surface = 0,1643 sqm

Surface in plant of the 10 shelves with 20 trays = 1,562 x 116,9 = 1,826 sqm
11,11 trays “on the floor” in an ordinary greenhouse

Total saving 45%

Energy saving

The energy saving, respect to a greenhouse is:

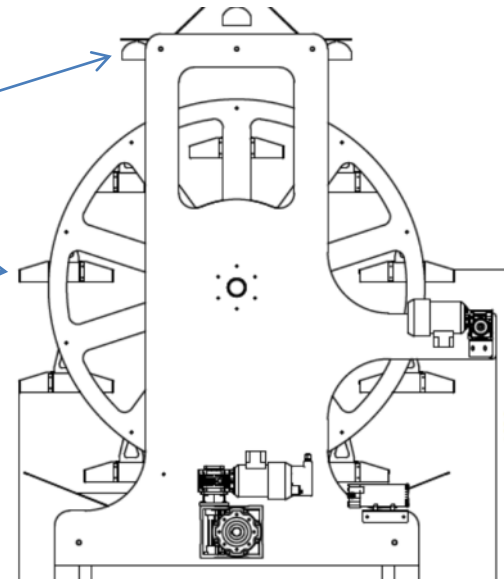


50% , by using LED lamps,

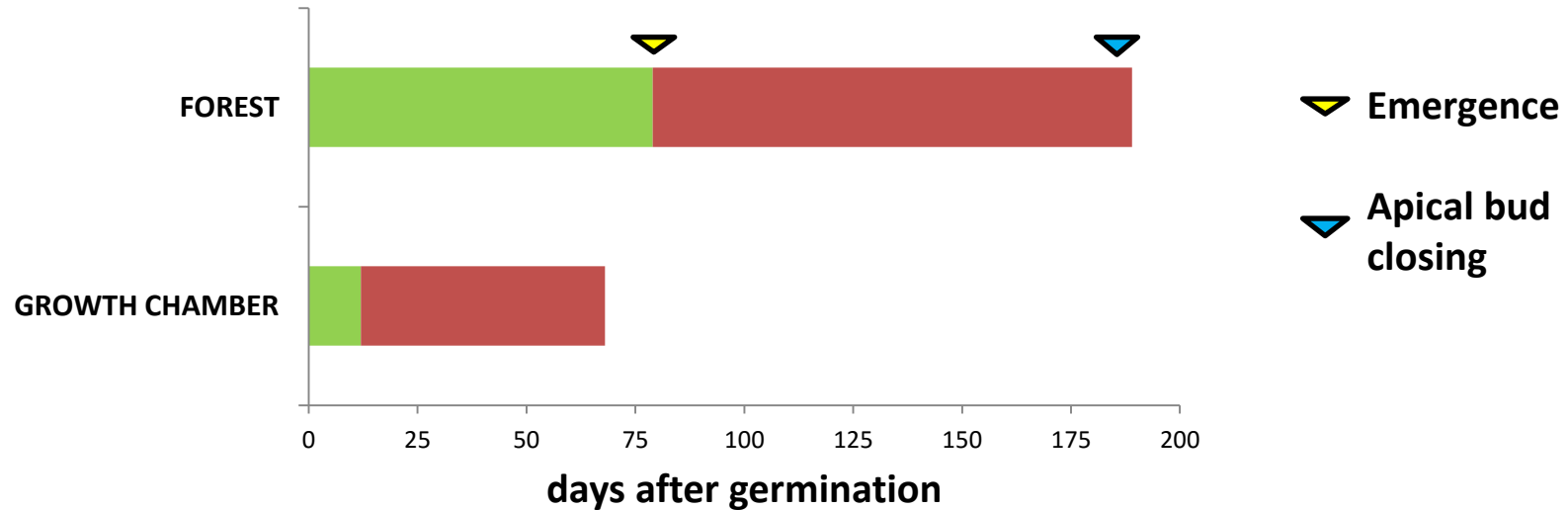
AND

Further 70% by using the rotative system
only 3 rows of lamps
for 10 rows of trays

Total saving 85%



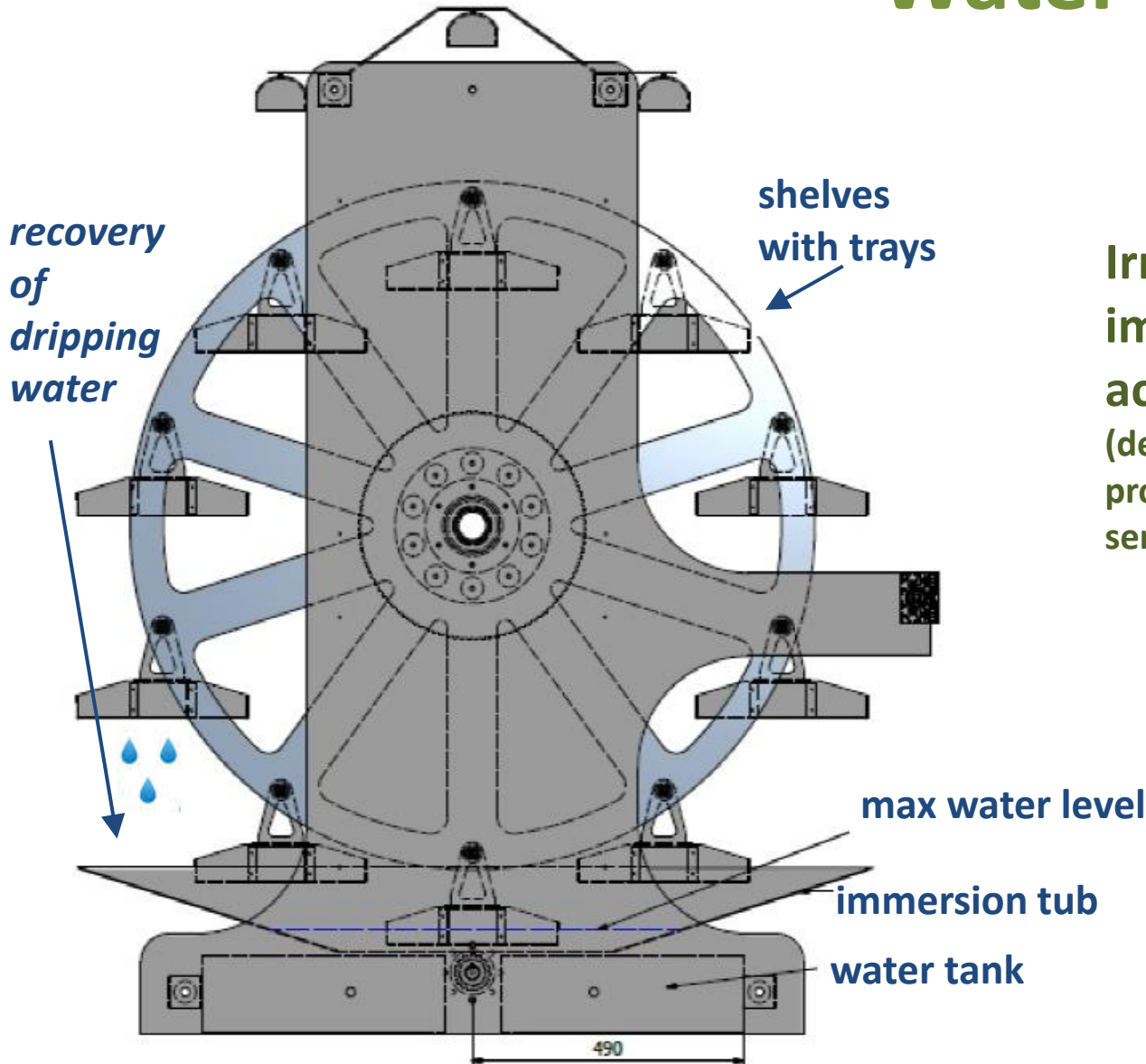
Comparison between sunlight and the most «natural» LED spectrum (NS1):
speed of growth (e.i. *Q. suber*)



	Forest	Growth chamber	Time reduction (%)
Days between germination and emergence	79	12	84%
Days between germination and apical bud closing	189	68	64%

Water saving

Irrigation by immersion, only if actually needed
(depending on the data provided by the wireless sensors in the soil)



Il sistema Zephyr consente la produzione di un elevato numero di piantine forestali con minor tempo di crescita.

Concepito per programmi di riforestazione, infrastrutture verdi , produzione di specie in via di estinzione o ad alto valore aggiunto (piante medicinali e nutraceutiche).

Ridotti consumi energetici, tali da poter essere alimentato con pannelli solari e reso trasportabile, con possibilità di monitoraggio remoto

Sistema modulare e scalabile:

INNOVATION in Zephyr



good or service that creates value.....



.... replicable at an economical cost



.. Business opportunities for the involved SMEs...



Thank you for your attention!

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International no-profit Association www.veltha.eu