


EUROTRON

EMBRACING SUNLIGHT

Learn from the past...

- Technology steps and evolution
- Comparison:
 - First Motorola television (VT-71)
 - Recent Motorola television (32SAFHDM)

A person with short dark hair, wearing a blue hoodie, is seen from the back and side, looking towards a green chalkboard. The chalkboard has a quote written on it in black, bold, sans-serif capital letters. The quote is: "THE PAST IS WHERE YOU LEARNED THE LESSON. THE FUTURE IS WHERE YOU APPLY THE LESSON." Below the quote, the name "TOBYNAC" and the hashtag "#SPEAKLIFE" are written in a black, handwritten-style font.

**THE PAST IS
WHERE YOU
LEARNED THE
LESSON.
THE FUTURE
IS WHERE
YOU APPLY
THE LESSON.**

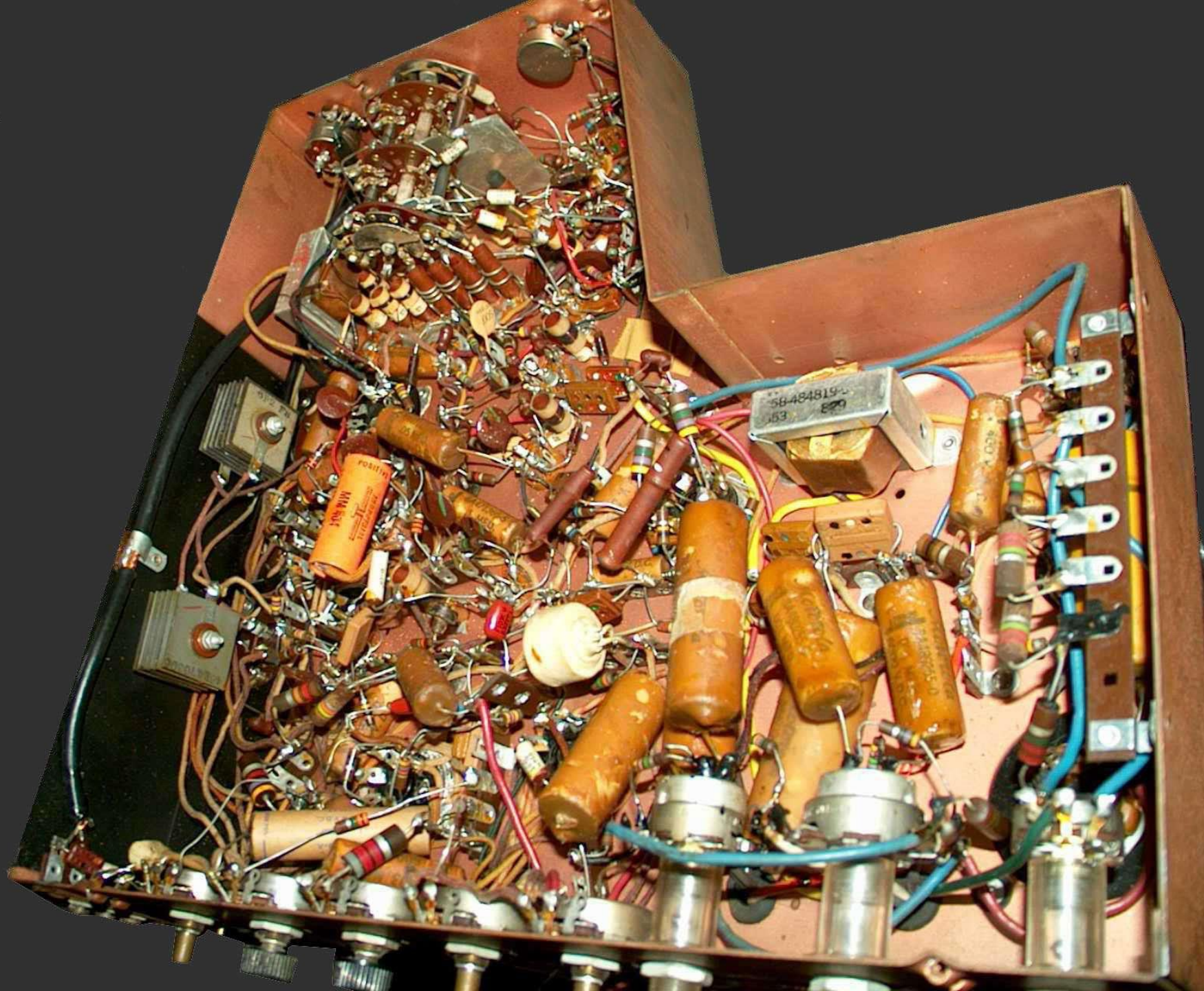
TOBYNAC #SPEAKLIFE



Motorola

OFF

ON

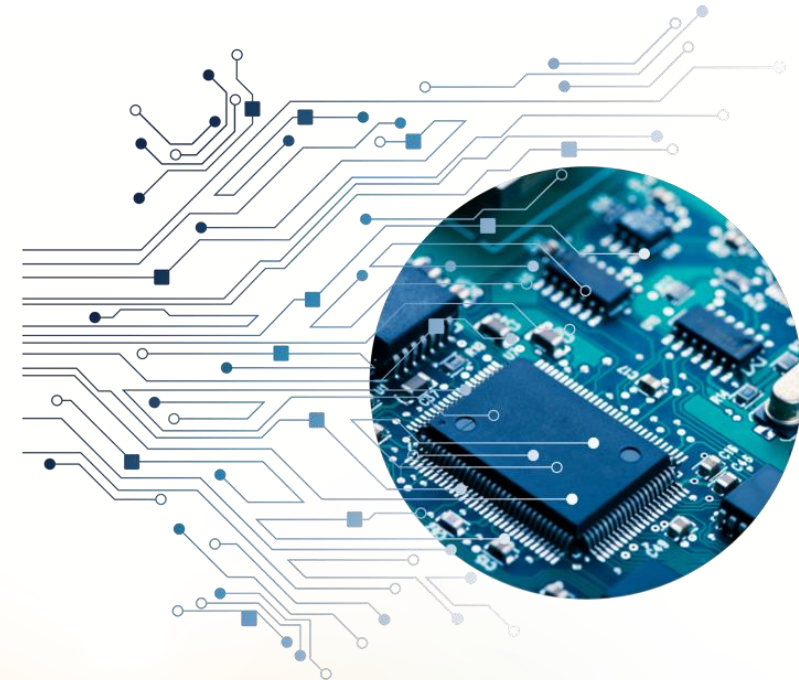






What are advantages of PCB over conventional wiring?

- Operator wiring errors are eliminated
- PCBs allow for much higher component density
- Components are mounted and connected in a single step
- Manufacturing and assembly can be completely automated
- They offer a simple and reliable solution to join different electrical components together



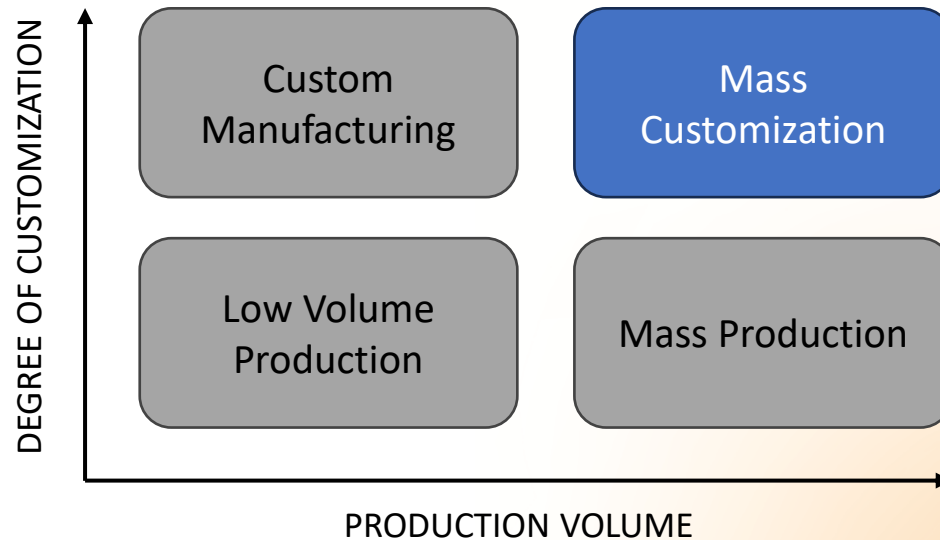
“Like all new technologies, it took a while for engineers to accept and promote the PCB.”

Mass customization of back-contact PV modules

- Introduction
- Foil based back-contact technology
- Upgrades existing equipment of Eurotron
- Production process Lightyear
- Conclusion

Introduction

“Mass customization is a *manufacturing technique* that combines *flexibility* and *personalization* of custom-made products with the *low unit costs* associated with mass production.”



Traditional PV

- Large solar fields
- Roofs
 - Houses
 - Factories



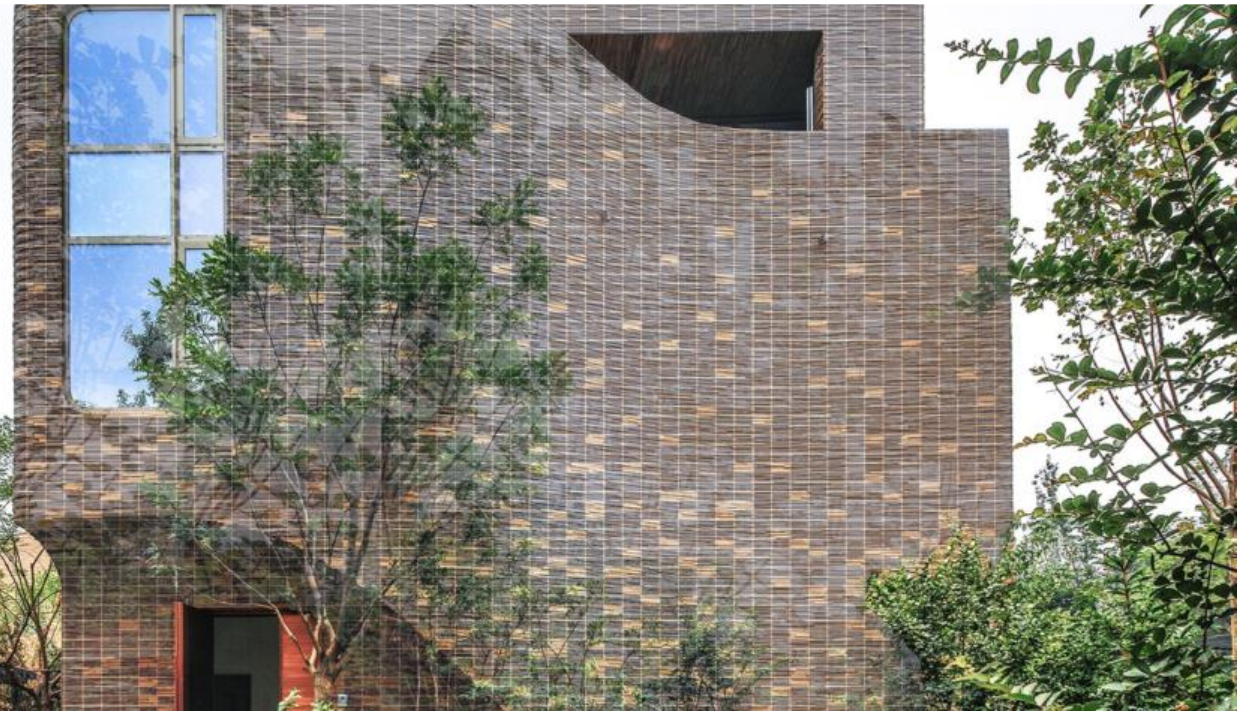
Integrated PV

- Vehicle integrated PV



Integrated PV

- Vehicle integrated PV
- Building integrated PV



Integrated PV

- Vehicle integrated PV
- Building integrated PV
- Agrophotovoltaics



Introduction

- Vehicle Integrated PV
- Building Integrated PV
- Agrophotovoltaics
- Floating PV



Introduction

- Vehicle Integrated PV
- Building Integrated PV
- Agrophotovoltaics
- Floating PV
- Road-Integrated PV



Foil based back-contact technology

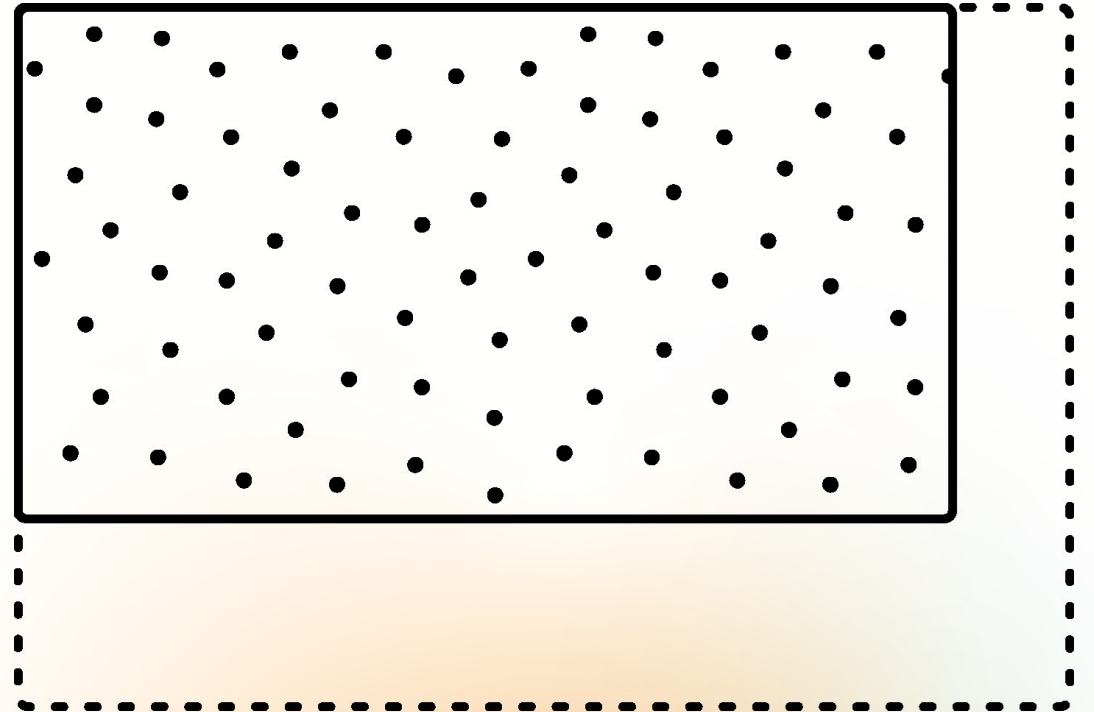
- Large degree of design freedom
- Possibility to place cells on any position
- Non regular shapes can be completely filled
- Unparalleled aesthetics



Upgrades existing equipment of Eurotron

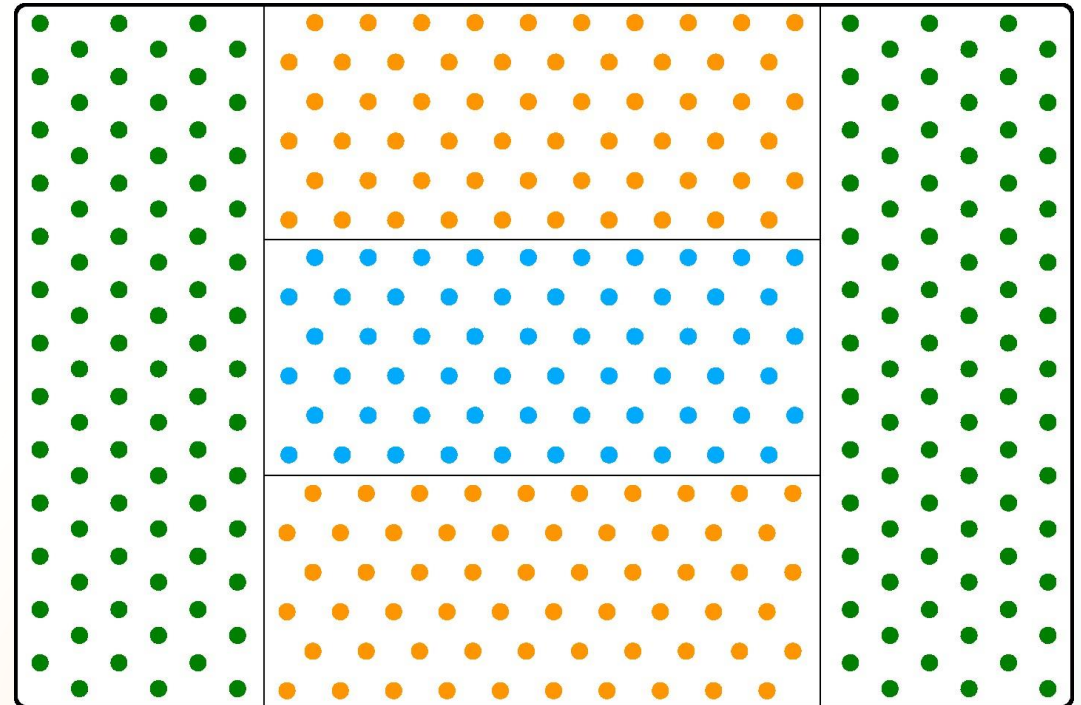
- Larger work area
 - 2250 x 1500 mm

+50%



Upgrades existing equipment of Eurotron

- Larger work area
- Multiple vacuum chambers



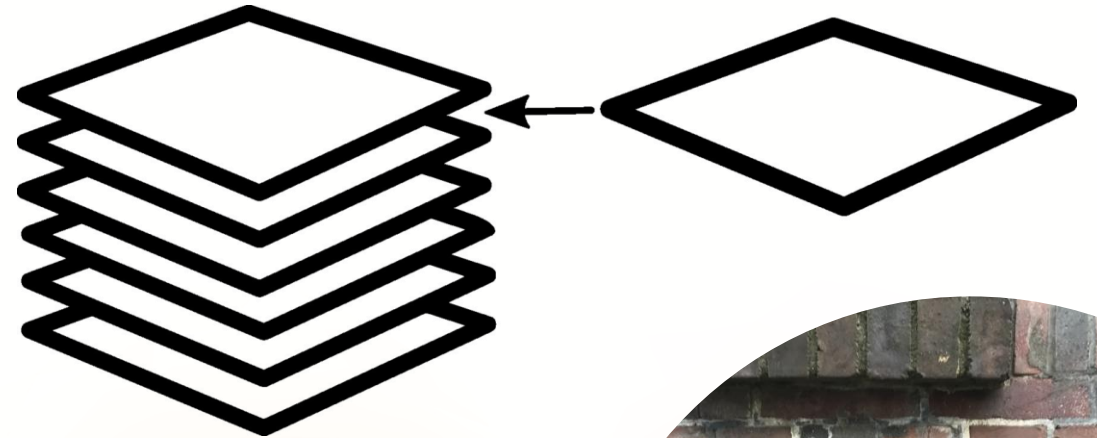
Upgrades existing equipment of Eurotron

- Larger work area
- Multiple vacuum chambers
- Implementation of jet printing



Upgrades existing equipment of Eurotron

- Larger work area
- Multiple vacuum chambers
- Implementation of jet printing
- Possibility to place extra layers for laminating semi-finished laminates



Production process Lightyear

- Good example mass customization
- Six different modules
- First semi-finished laminates
- Final lamination in 3D laminator



Conclusion

- Technology ideally suited for integrated PV and mass customization
- Eurotron's manufacturing lines complement this wonderfully
- First examples of mass customization demonstrated
- Mass production and mass customization are both needed
- It will reinforce each other



A wide-angle landscape photograph of a golden field at sunset. The sun is low on the horizon, creating a warm orange and yellow glow. The sky transitions from a deep blue at the top to a lighter orange near the horizon. The field in the foreground is filled with tall, golden grasses, and there are some trees and hills in the background. The text 'EUROTRON' is overlaid in the center, with the sun acting as the dot for the 'O'.

EUROTRON

EMBRACING SUNLIGHT