





NEW SUSTAINABLE MATERIALS TURN INTO PRODUCTS

MARCEL WIRTZ, 2/25/2025

GOODYEAR

AGENDA

- What is Goodyear, where are we active

- Goodyear and Sustainability:  **BETTERFUTURE** 

- Showcase: Rice Husk Ash Silica

- Bold Goal: 100% sustainable tire by 2030



GOODYEAR – WHO WE ARE

GOODYEAR

GOODYEAR

GOODYEAR IN LUXEMBOURG



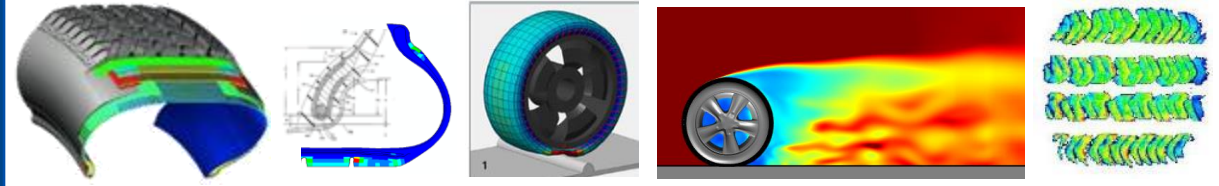
GOODYEAR LUXEMBOURG COMPLEX

- Goodyear Innovation Center
- Proving grounds/Test circuit
- Tire Vehicle Test and Research Laboratory
- Tire Test Laboratory
- Tire Plant
- Tire Distribution Center
- Goodyear Mounting Solutions
- Mold Plant
- Regional Calendar Center
- Regional Offices: Manufacturing, Finance, Treasury
- Dudelange plant



GOODYEAR INNOVATION CENTER LUXEMBOURG

Tire Engineering & Design



Materials & Compounding Science



Innovation Prototyping



Tire Performance Insights



Beyond Tires Technologies





GOODYEAR.



BETTERFUTURE

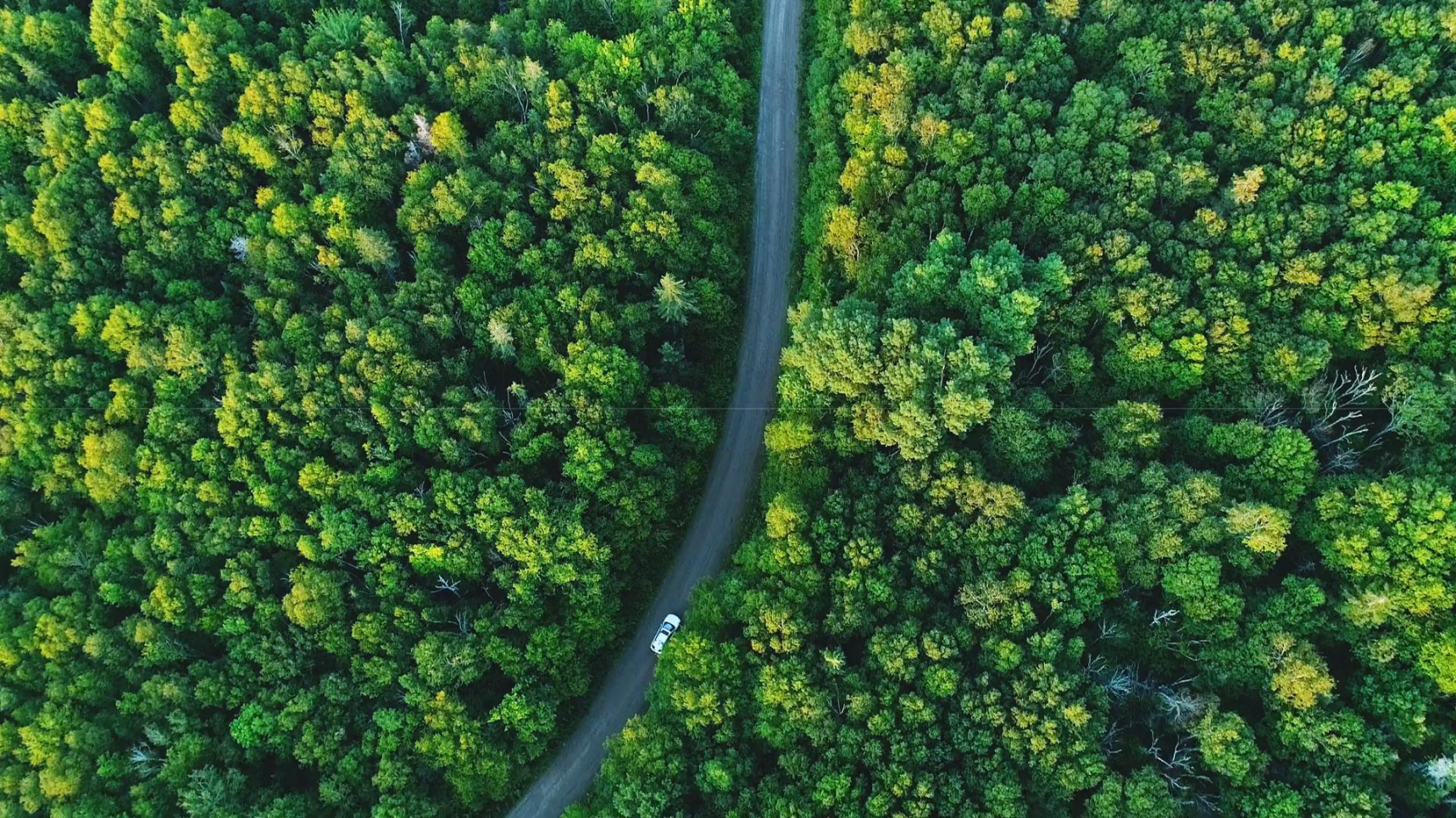
GOODYEAR.

GOODYEAR'S BETTER FUTURE FRAMEWORK



GOODYEAR BETTER FUTURE

CURRENT STATE: 90% SUSTAINABLE TIRE



BETTER FUTURE
SUSTAINABLE
SOURCING



GOODYEAR BETTER FUTURE

SUSTAINABLE SOURCING



Replacement of mineral oil-based materials

- Minimize depletion of natural resources
- Sustainability factor as development criteria for new compounds (LCA assessments)
- Using new synthetic pathways to replace current materials: Monolith CB
- Recycling of ELT
- Dematerialization
 - Retreading: re-use of the tire carcass, as well for passenger tires
 - Tire longevity: more milage taken out of one tire

ACCOMPLISHED: 90% SUSTAINABLE TIRE



RICE HUSK ASH SILICA

SHOWCASE

GOODYEAR BETTER FUTURE

RICE HUSK ASH SILICA SHOWCASE



- Silica from bio-waste
- Rice Husk: high silica content
- Industrial process to access it:
 - Ash the husk (thermal treatment)
 - Clean the ashes (chemical treatment)
 - Get access to silica
- Comparable evaluation confirms material performance being like high surface area silica



GOODYEAR BETTER FUTURE

RICE HUSK ASH SILICA – RAW MATERIAL EVALUATION



- Raw materials = single ingredients
- New raw material sample compared to reference material
- Key parameters determined with test in labs
- If parameters are within a specification, close to reference → material appropriate for usage
- Initiate next step: in compound testing

SAMPLE PROPERTIES SIMILAR TO REFERENCE MATERIAL



GOODYEAR BETTER FUTURE

RICE HUSK ASH SILICA – IN COMPOUND COMPARISON



- Compound = mixture of different raw materials
- Standard Recipes chosen for compound mixing
- Mixing with the same parameters – direct back to back: compound with reference material and new material
- Testing compound key parameters regarding performance
- If parameters are within a specification, close to reference → compound appropriate for usage
- Initiate next step: in tire testing
- Same approach for in tire testing: if tire is showing appropriate data: raw material approved for usage

SAMPLES INCLUDING NEW MATERIALS SIMILAR TO REFERENCE



GOODYEAR BETTER FUTURE

RICE HUSK ASH SILICA – IMPLEMENTATION INTO PRODUCTION



rice husk ash silica used
as conventional silica ;
no dedicated
classification

2020

%sustainability of
compounds and products
required by customer

dedicated
identification for
sustainable silica

LuxTire
converted to
sustainable silica plant



GOODYEAR BETTER FUTURE

RICE HUSK ASH SILICA – IN PRODUCT USAGE



Truck tires produced in Luxembourg

- Up to 55% sustainable materials
- 20% more milage per tire
- 6% less rolling resistance



TOWARDS 100% SUSTAINABLE TIRE

THE LAST 10% ...

GOODYEAR BETTER FUTURE

THE LAST 10%



- **Projects to be able to provide a 100% sustainable tire**
 - Recycled & sustainable fabric
 - Sustainable CB
 - Sustainable curatives
 - WP within **GOODYEAR** | **LIST**  Partnership 2.0
 - Sustainable adhesive development
 - Increase amount of recovered materials from ELT



GOODYEAR BETTER FUTURE

SUMMARY



- **Rice Husk Ash Silica illustrates new sustainable raw material development**
- **Process to identify a new raw material for usage in our products**
- **Challenges to implement sustainable raw materials into ongoing production**
- **Demonstration tires: accomplished 90% sustainable material usage**
- **Truck tires with already 55% sustainable content produced in Luxembourg**

ON TRACK TO ESTABLISH 100% SUSTAINABLE TIRE IN THE FUTURE





GOODYEAR 
BETTERFUTURE

**THANKS FOR
YOUR
INTEREST !**