



## The Biofore Concept Car

- General**
- Make and Model: Metropolia Biofore
  - 4 seated premium urban car, Weight 1110 kg, Dimensions (L x W x H) 3860 x 1775 x 1610 mm
  - M1 class EU road legal vehicle (winter 2015)
  - Project owner in Metropolia Pekka Hautala / in UPM Elisa Nilsson
  - Project manager and chief vehicle engineer Harri Santamala
  - Lead designer Juha Tuomola
  - PR and manufacturing Oscar Nissin

- Chassis**
- Cellulose/carbon fiber composite chassis with steel tube front frame weighting 150 kg
  - Team Metropolia: Jaakko Väisänen, Tino Tuominen, Aki Maksimainen, Teemu Priha, Samuel Seppälä, Juha Porvali, Reko Ulmonen, Joel Kontturi

- Powertrain**
- 1.2 litre diesel engine with 5 speed manual gearbox. Euro 5 emission levels. Max Torque 180 Nm, Acceleration 0–100 km/h 13.9 s, Engine Power 55 kW, Range 590 km, Top speed 120 km/h, Fuel consumption EU combined & CO<sub>2</sub> emissions 3.4 l / 100 km & 89 g/km. Fuel UPM BioVerno renewable diesel.
  - Team Metropolia: Jussi Hyvärinen, Sampo Kuikka, Sakari Mattila, Teemu Tiainen, Sasu Leppisaari, Gera Knuutinen, Jose Marín Pérez



- Suspension**
- Air suspension, electrohydraulic powersteering. Front McPherson, rear twist-beam axle
  - Team Metropolia: Joni Rossinen, Jarkko Rauhala, Mikko Aaltonen
- Exterior**
- Composite body with UPM Formi and cellulose thermoset composite panels. Glass roof and door integrated b-pillar for spacious experience. Pearl white color with green effect.
  - Team Metropolia: Pasi Kärkkäinen, Tuomo Äijälä, Sauli Valkeiskangas, Ilkka Ekström, Ville Kilpiö, Mikko Hyrkkänen
- Interior**
- Spacious interior with UPM Grada and UPM Formi based components. Premium upholstery materials.
  - Team Metropolia: Vesa Tikka, Mika Ihanus, Janne Laine, Jenni Jättilä, Rony Lehti, Eero Mustaniemi, Mikko Koivumäki, Weiping Wang
- In-Vehicle-Infotainment IVI**
- Easy usability and flexibility. Three customizable touch screens with Android wireless connectivity. 8 speaker premium sound system.
  - Team Metropolia: Niklas Zuban, Ville Helä-Aro, Aditya Kelekar, Alexander Voroshilov, Vladimir Maskov, Ville Nopri
- Electrics**
- CAN bus based flexible 12 V distributed body electric control system. 3G, Bluetooth and Wifi connectivities.
  - Team Metropolia: Kaj Husso, Pauli Nevalainen, Jarmo Handolin, Kalle Koskinen

[www.bioforeconceptcar.upm.com](http://www.bioforeconceptcar.upm.com)



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