

# Consortium Members



INNOBITE is a research project co-funded by the European Community **Seventh Framework Programme** for European Research and Technological Development

Grant Agreement No: 308.465

## Project Details

INNOBITE is a collaborative project co-funded by the European Community Seventh Framework Programme.

Grant Agreement No: 308.465

### Purpose:

Transforming urban and agricultural residues into high performance biomaterials for green construction.

### Duration:

September 2012 to September 2015.

## Coordinator Contact

Dr. Álvaro Tejado

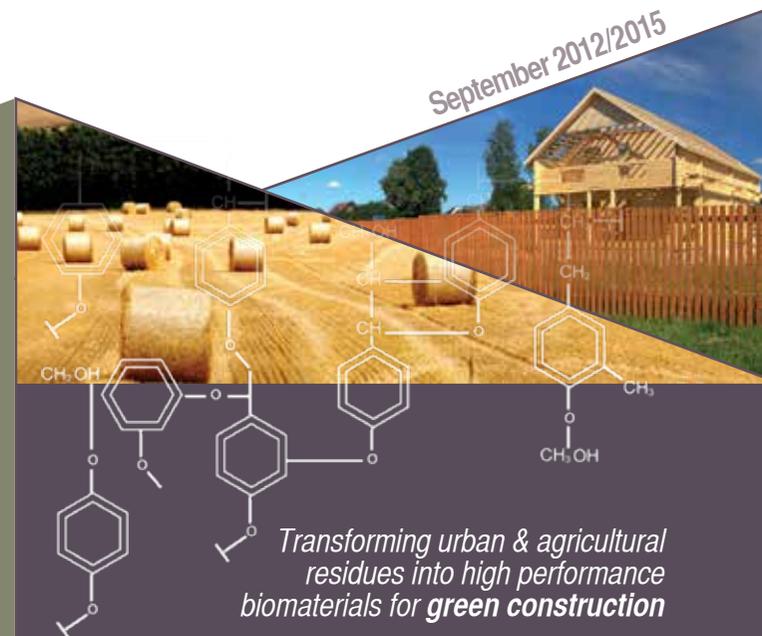
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Transforming urban & agricultural residues into high performance biomaterials for **green construction**

[www.innobite.eu](http://www.innobite.eu)

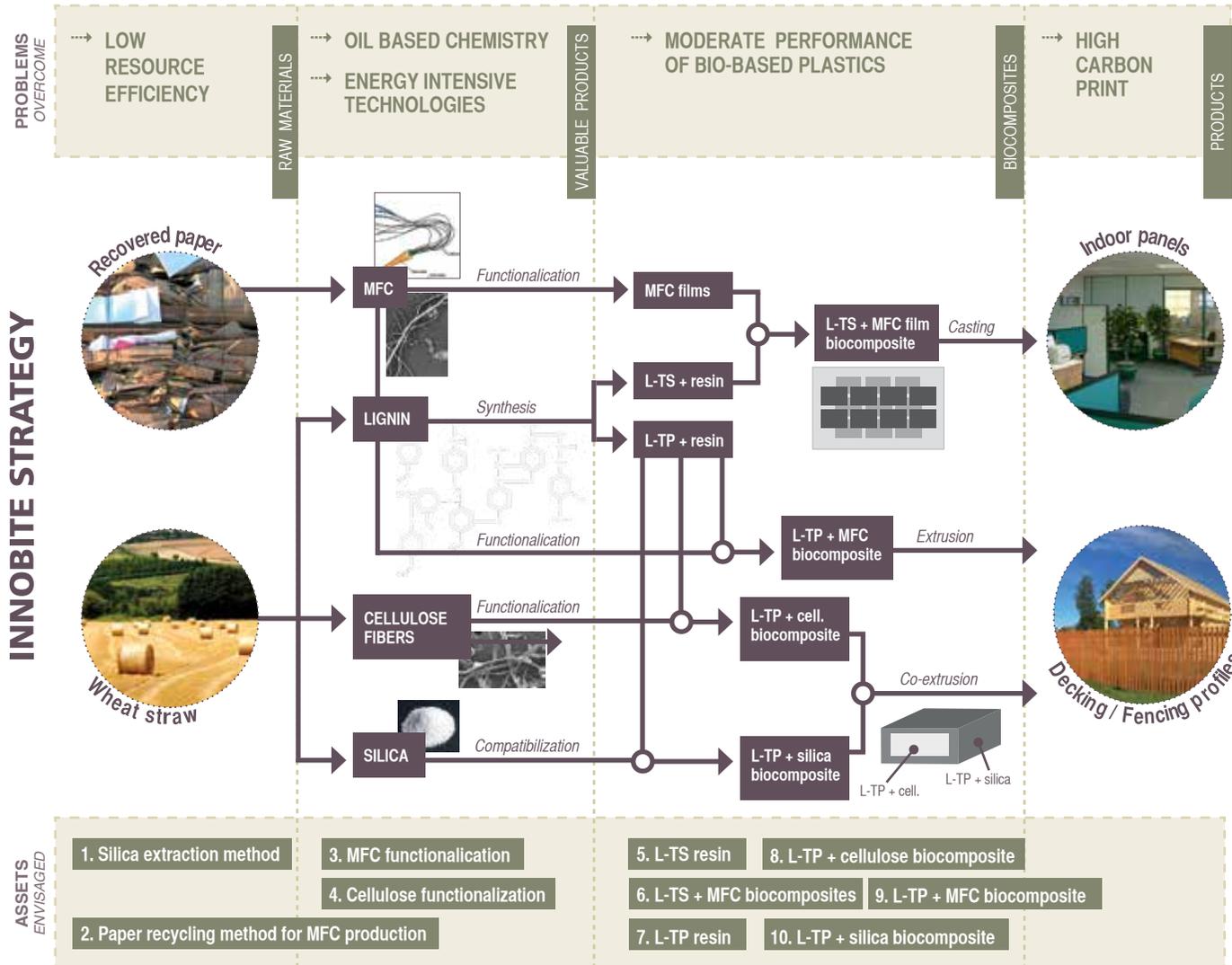
# Innobite concept

The **INNOBITE project** contributes to the development of sustainable consumption and production patterns through the development of **new technological solutions based on the efficient use of natural resources**. INNOBITE project will transform urban and agricultural residues into high performing resource efficient products for the emerging Green Construction sector.

The project finds support in **two innovative ideas**:

- (1) Adding value to the inorganic fraction of wheat straw
- (2) Obtaining cellulose nanofibres (MFC) from highly recycled paper.

Once isolated via environmentally friendly processes, these two renewable compounds will be used as high-performance additives providing unique properties to a new series of biocomposites to be used in construction applications.



MFC (Microfibrillated Cellulose) / L (Lignin) / TP (Thermoplastic) / TS (Thermosetting)

# Objectives

## Objective 1

To develop and integrate a biorefinery process that is an environmentally acceptable method for the effective extraction of the inorganic fraction of wheat straw.

## Objective 2

To develop a method for the production of MFC from recycled paper that balances, from the ecological point of view, the environmental impact of the recycling stage and the energy required for MFC production.

## Objective 3

To obtain a thermosetting bio-based nanocomposite which:

- Is made of lignin-based thermosetting (L-TS) resin and MFC reinforcement.
- Meets indoor walls specifications using less resin than similar non-biobased systems.
- Is at least 50wt%<sup>1</sup> bio-based.

## Objective 4

To obtain a thermoplastic bio-based composite which:

- Is made of L-TP resin and at least one of the following: silica, MFC and cellulose fibres.
- Meets technical specifications for decking or fencing.
- Overcomes commercial WPC<sup>2</sup> solutions by >10% on at least one of the following properties: surface hardness, water absorbency and durability.
- Is >95wt% of bio-based origin and/or biodegradable.

## Objective 5

To reach the market with all the technologies and products developed within the project following the positive recommendations of an exhaustive analysis of cost effectiveness and marketing possibilities.

<sup>1</sup> wt% (Weight Percent)

<sup>2</sup> WPC (Wood Polymer Composites)