Research and development project 2014–2016

Terra Preta

Consortium members:

BioFil – Microbilogical, Biotechnological & Biochemical Ltd.

Bioforsk – Norwegian Institute for Agricultural & Environmental Research

BME – Budapest University of Technology and Economics Environmental Microbiology and Biotechnology

MTA-ATK-TAKI – Institute for Soil Sciences and Agricultural Chemistry

Aim of the project

Technology and product development applying biochar:

- as additive to amend acidic sandy soils and
- as carrier of microbial soil inoculum to increase crop yield

Development tasks:

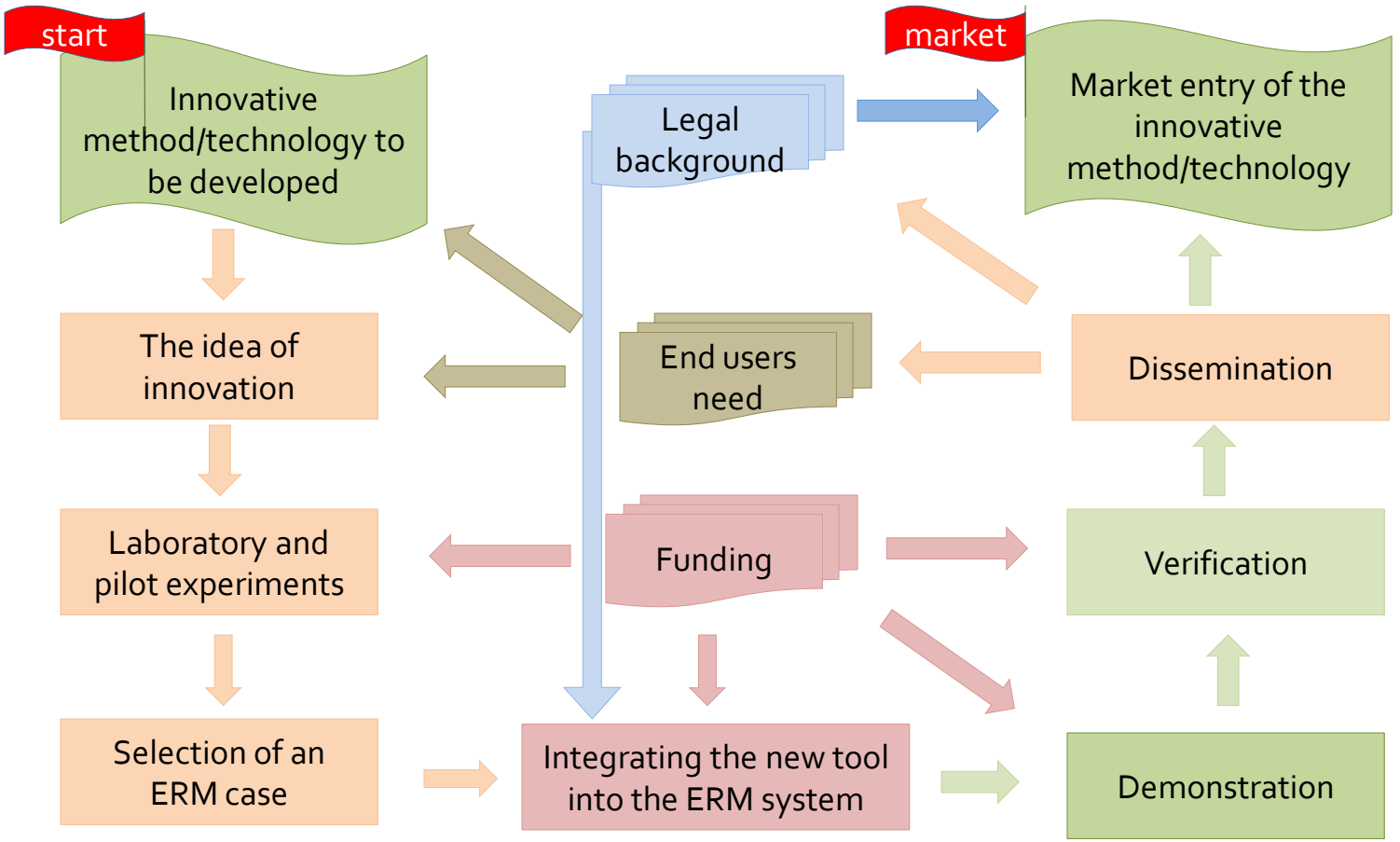
- Development of products applicable to soil: suitable biochar for acidic and sandy soils and inoculum on biochar carrier.
- Development of technologies applying the biochar-based products on soil.

  The stages of technology implementation are:
  - selection of the suitable biochars based on an inventory and on preliminary experiments;
  - measurement of the optimum technological parameters in technological microcosms;
  - adaptation of the results to the field experiments
    - in small plots (20–100 m^2);
    - demonstration in field plots (400 m^2);

- Verification of the applied technologies and the new products
- Databases for biochars and application technologies.

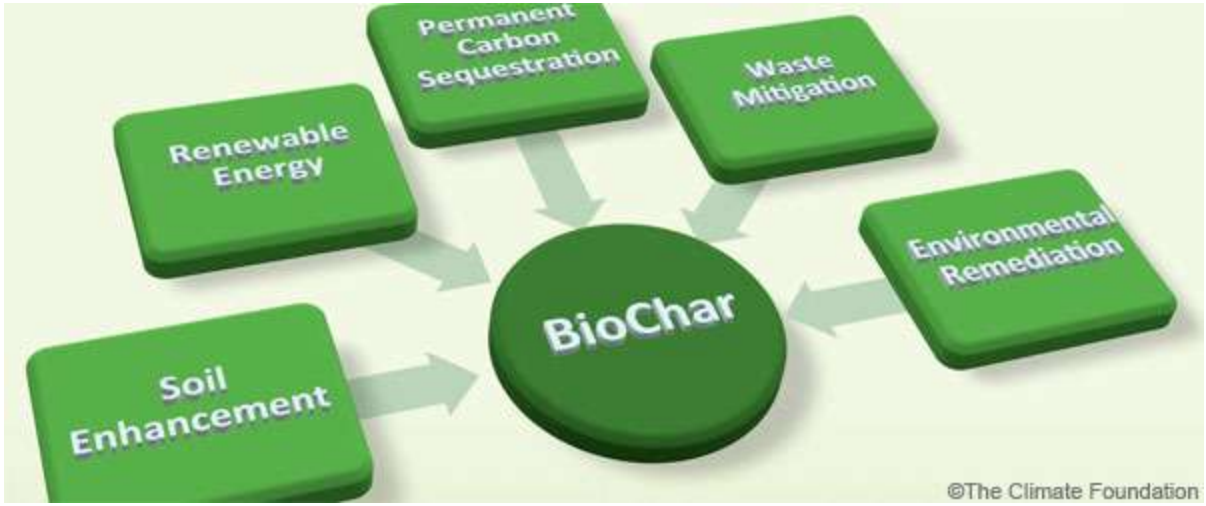
The planned development covers the complete innovation chain

1. The idea of innovation; 2. Laboratory and pilot experiments;
3. Examination of the legal background and end user needs;
4. Selection of the actual case; 5. Technology planning for the selected case;
6. Planning of technology monitoring; 7. Demonstration; 8. Verification;
9. Dissemination; 10. Market entry.

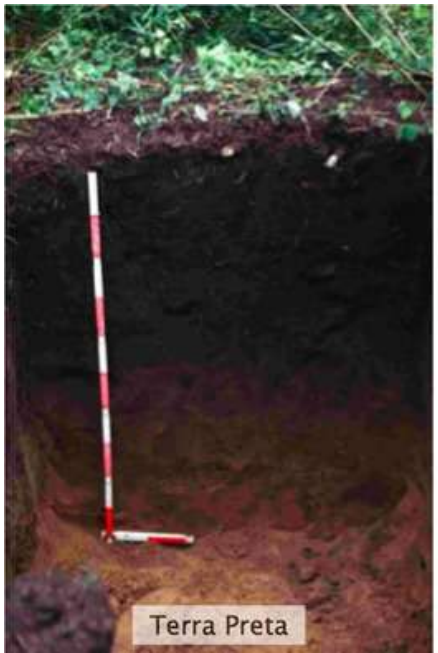


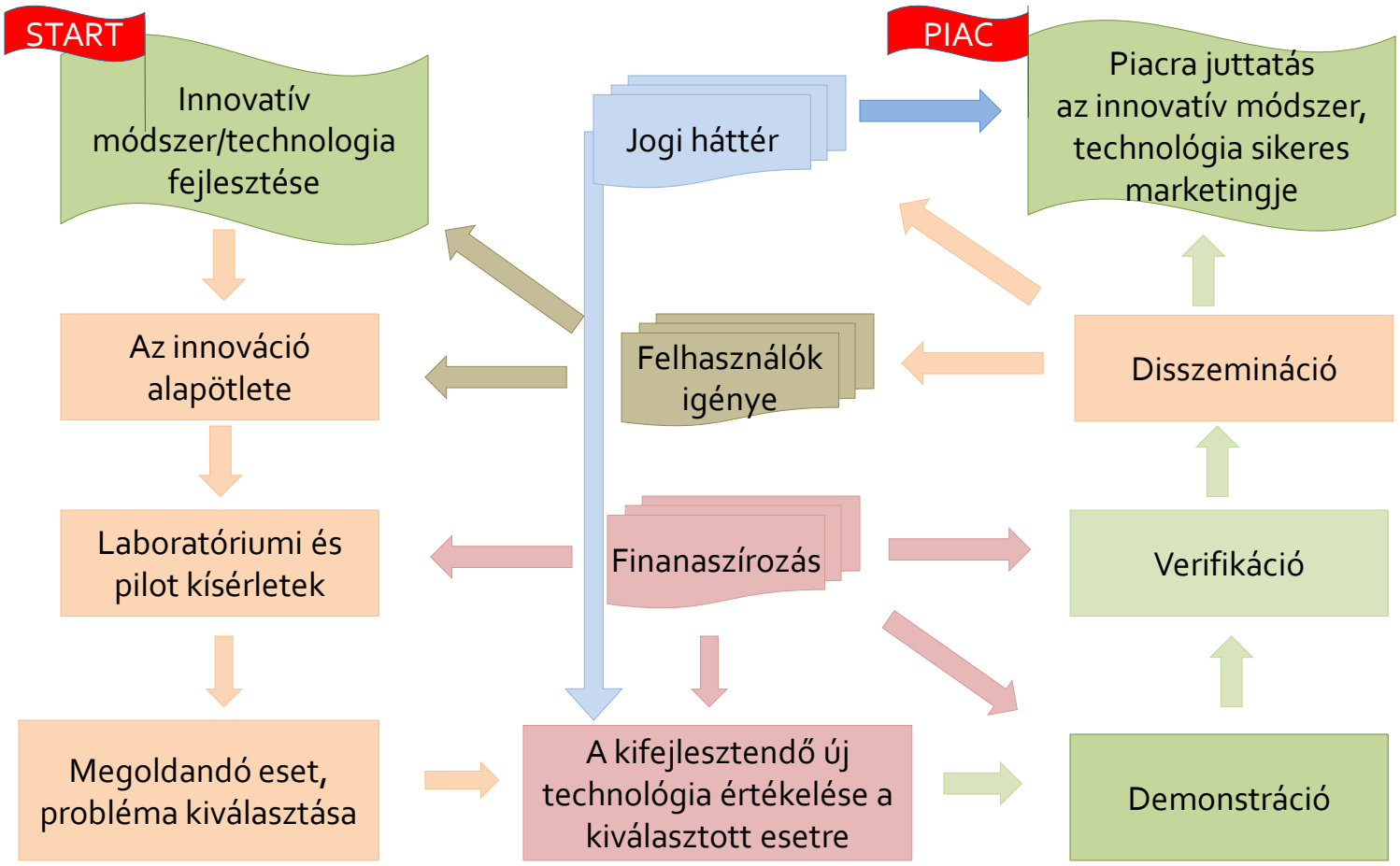
Targeted results:

1. Demonstration of the innovative utilisation of biochar and verification of the feasibility of the developed products and technologies;
2. Biochar as the carrier of the soil inoculum, aiming at fixing the microbial cells, prolonging their life span and easing the handling of soil inocula;
3. Solid microbial inoculum fixed on the biochar carrier will be developed to acidic and sandy soils;
4. 12% of Hungary's territory is covered by acid sandy soil needing enhancing and sustaining the soil quality on the long term;
5. Know-how development for biochar application to acid sandy soils and inoculum fixed on biochar carrier;
6. Methodology elaboration for the evaluation of the soil amending effects of biochar and inoculum fixed on biochar;
7. Selection of the biochar types suitable for acid, sandy soils and establishment of a biochar-database;
8. Demonstration of the use of biochars in environmental technologies,
9. Verification of the developed technologies,
10. Dissemination of the verified products and technologies;
11. Industrial property protection of the products and technologies;
12. Marketing of the products and the technologies.



Thank you for your attention




START
Innovatív módszer/technologia fejlesztése
Az innováció alapötlete
Laboratóriumi és pilot kísérletek
Megoldandó eset, probléma kiválasztása
Jogi háttér
Felhasználók igénye
Finanaszírozás
A kifejlesztendő új technológia értékelése a kiválasztott esetre
PIAC
Piacra juttatás az innovatív módszer, technológia sikeres marketingje
Disszemináció
Verifikáció
Demonstráció