



www.idenbiotechnology.com

**Iden Biotechnology,
collaborative experience
optimizing and upscaling
agro-biological products**



Iden focusses on the agricultural sector and is developing novel yield enhancing technologies into valuable new products

THE MARKETS WHICH IDEN ADDRESSES

Iden uses two areas: Agrobiologicals and Crop improvement. They are part of the general industry of farm input. Within the broad sectors of seeds and crop protection, the main objectives are:

- Yield improvement
- Resistance to biotic and abiotic stress
- Nutrition enhancement
- Quality characteristics enhancement



Novel Biologicals



Platform
technology for
new biostimulants
and biopesticides



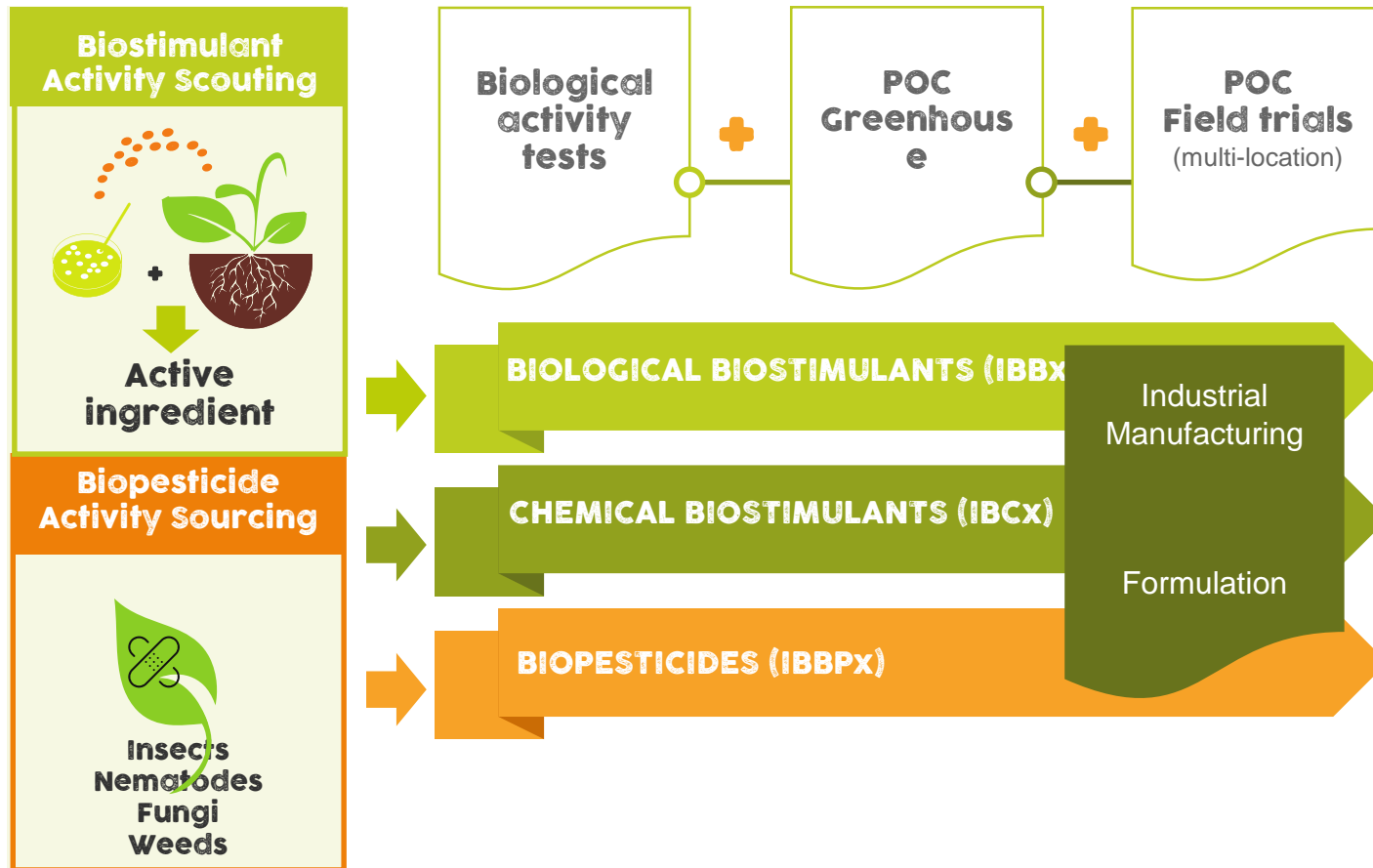
Validated from
research to early
commercialization

- Non-random discovery platform
- Proprietary technology
- Unique biological sources
- Products based on exudates (non-living cells)

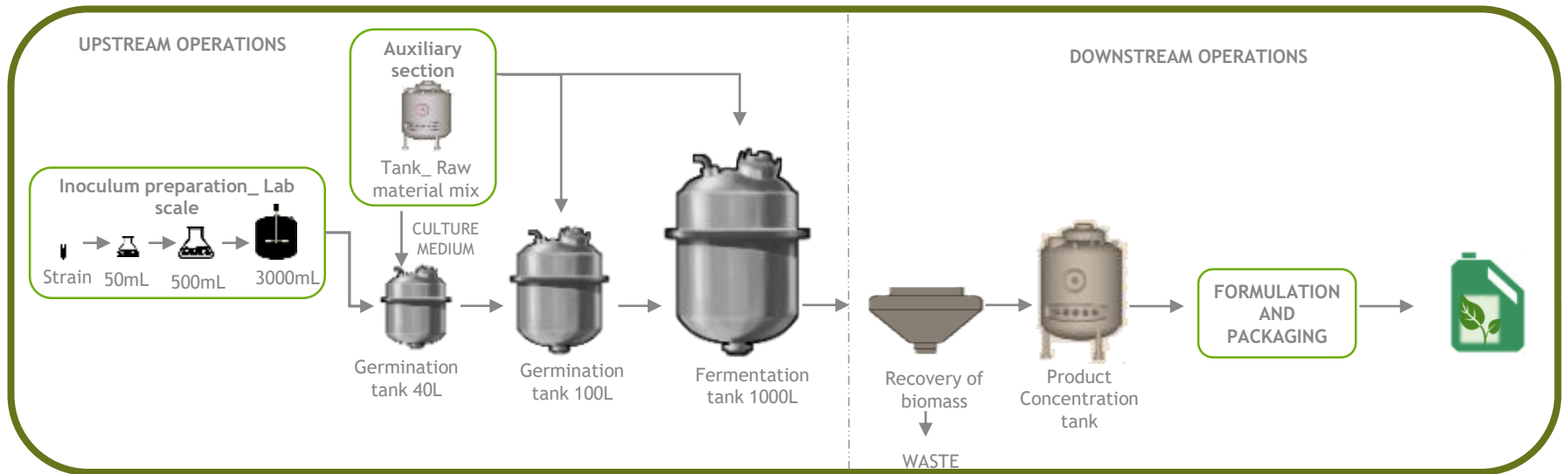


Platform Supports Broad Pipeline

Leveraging its proprietary platform, Iden is developing a rich pipeline that is supported by multiple patent families



Industrial Manufacturing



Characterization

Toxicity Study

Shelf life Study

Formulation

Optimization of production process

Scaling up



CENER

CENTRO NACIONAL DE
ENERGÍAS RENOVABLES
NATIONAL RENEWABLE
ENERGY CENTRE

OPTIMIZATION OF PRODUCTION PROCESS



Step I Lab Scale



Standardization of protocols

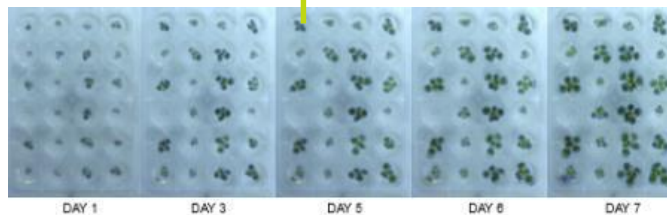
- ✓ Quantification of carbon source and product by HPLC.
- ✓ Quantification of source nitrogen.
- ✓ Quantification of biomass.
- ✓ Strain conservation
- ✓ Production of inoculum.

Culture medium composition

- ✓ Carbon source.
- ✓ Micronutrients.
- ✓ Nitrogen source.
- ✓ C:N Relation.

Parameters of fermentation

- pH
- Aeration
- Agitation
- Batch / Feed batch



Biological activity

SCALING-UP

Step II Pilot plant



40L: Conditions culture validation, also estimated yields and productivity.



1000L: Establishment of industrial conditions and collect data for energy and mass balance.



Step Economic and environmental study

It Includes: Cost of production, energy and greenhouse gas balance.

**“Coming together is a beginning.
Keeping together is progress.
Working together is success.” -
Henry Ford.....**





iden
biotechnology