**Work Plan**

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| **Task** | **Months** |
| Design, construction and testing of the new MW+US equipment (based on Labotron system) Design, construction and testing of the new MW+US equipment (based on Labotron system) | 1-6 |
| Studies on the influence of US on microwave heating (both equipment will be used): Comsol model + experiments | 1-12 |
| Extraction of fat-soluble active ingredients with a new solvent (both equipments shown in Fig. 1 will be used):- Synthesis and purification of FAEE from selected oils with high content of w-3 and w-6;- Optimization of the extraction process;- Examination of the stability of active compounds extracted with US and MW;- IP assessment and food supplement manufacturer(s) contact. | 13-24 |
| Synthesis of calcium alginates in the MW-US reactor:-Testing the different conditions for obtaining calcium alginate in MW and US assisted reactors;-Physico-chemical characterization of obtained calcium alginate (including adsorption capacity, regenerability and adsorption selectivity). | 13-24 |
| Obtaining polyols from biomass:* -Test of different types of glycol treatment for the conversion of biomass into polyols;
* -Test of obtained polyols in polyurethane recipes;

- Contact a paint manufacturer for product testing and manufacturing preparation. | 25-36 |