

FLOW CHEMISTRY / THE FUTURE

Novel, automated chemical technologies for pharmaceutical discovery

FOUNDED: 2011

100 % HUNGARIAN OWNERSHIP

BUDAPEST SITE

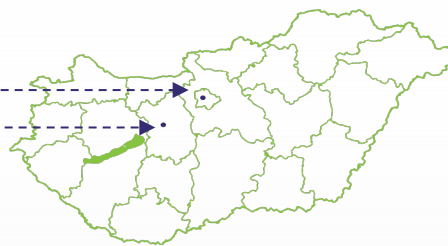
- TECHNOLOGY R&D
- MATERIAL TESTING LABS
- PRODUCTION OF UNIQUE EQUIPMENT

SZÉKESFEHÉRVÁR SITE

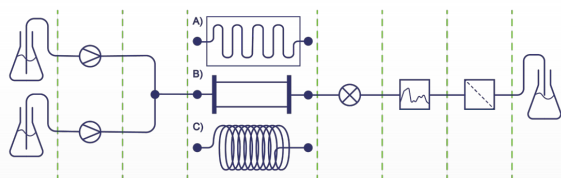
- MULTIFUNCTIONAL PRODUCTION HALL
- SCANNING ELECTRON MICROSCOPY

30+ RESEARCHERS/ENGINEERS

25+ SUCCESSFUL PROJECTS



FLOW CHEMISTRY



Flow chemistry involves the use of channels or tubing to conduct a reaction in a continuous stream rather than in defined volumes.

Flow equipment provides chemists with unique control and automation over reaction parameters, while enhancing reactivity or enabling new reactions, new molecules, new medicines.

PROBLEM OF THE INDUSTRY

- A continuous-flow system is made up of different modules, each has different functions.
- There are just a few manufacturers in the industry, and their product line only focuses on one or two elements of the production chain, thus making the users to select modules from different manufacturers to integrate into their systems.
- It is nearly impossible to connect these modules electrically and mechanically without making significant sacrifices in terms of features and ease of operation.

SOLUTION OF H-ION

- Our mission was to design a modular portfolio and R&D platform which is capable of performing the functions needed, and provide compatibility with each other, due to their shared platform.
- Each connected module is aware of the state of the others at any given time. This modular approach allows the researchers to create their own customized setup, that can serve their needs the most.
- The advantages of flow technology include higher technological flexibility, lower energy consumption, safer reaction implementation, autonomous technology, greater efficiency, easier scale-up, wider parameter range – new chemical pathways, and the flow technology needs less raw material usage with less material wasting.

RESULTS OF THE LAST 6 YEARS

- Developed and fully tested modules of a complete flow chemistry R&D platform
- Successful strategic cooperations with large pharmaceutical companies
- Several unique and single-purpose machine developments for industrial partners
- Several technology transfers from batch to flow chemistry for pharmaceutical partners



THE VISION

- Starting the production of the market ready modules in 2024
- Developing the system integration of the stand-alone modules with IOT, M2M methods within 2 years



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