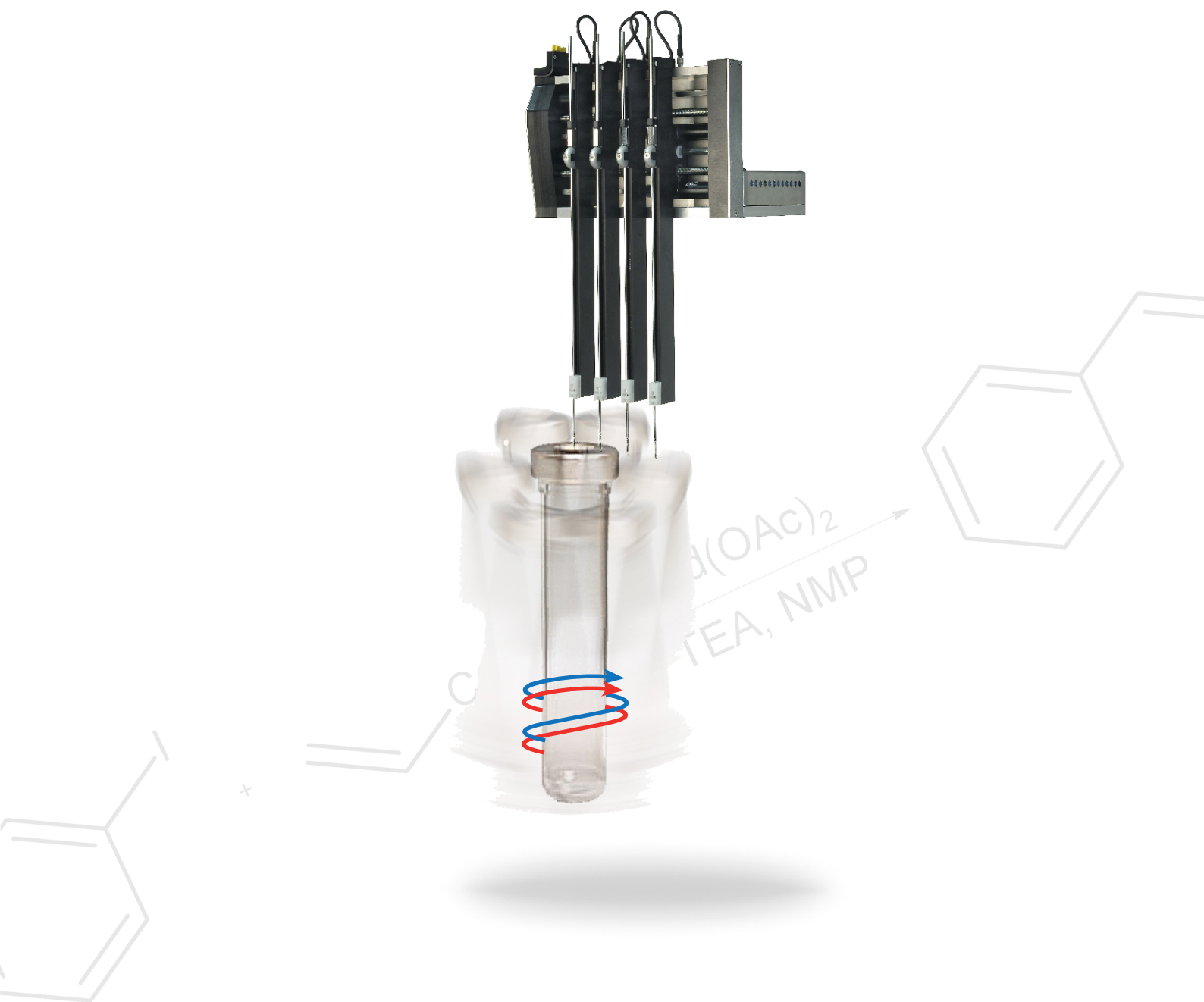


# ISYNTH

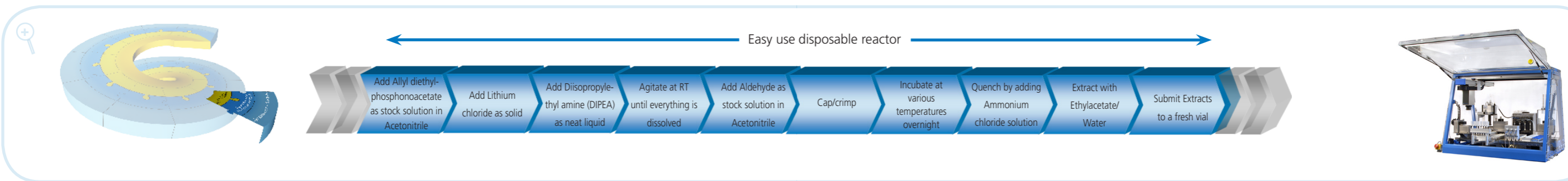
from concepts to success

- Library synthesis -

New generation of parallel organic synthesis in easy use disposable reactors



# from concepts to success



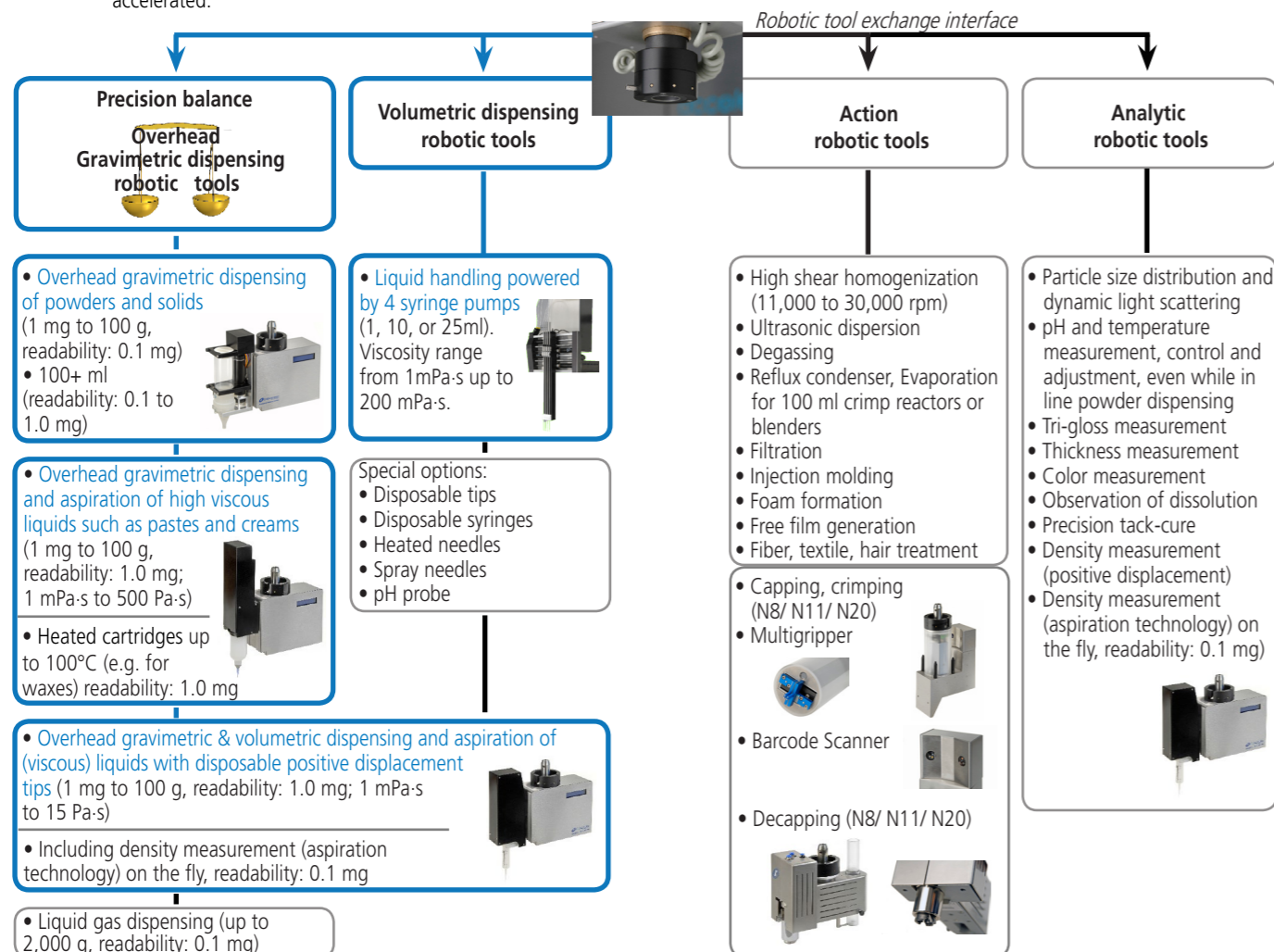
## ISYNTH, a modular robotic platform enabling library synthesis - new generation of parallel organic synthesis in easy use disposable reactors

ISYNTH, is Chemspeed's software-driven robotic platform for challenging workflows in the synthesis of libraries of active small organic molecules.

- ISYNTH brings paradigm shifting modularity enabling an easy to use workflow task driven software
- Exchangeable robotic tools
- Unrivaled gravimetric dispensing technology *directly immersing into the target* including an *anti-drip system* which avoids cross contamination
- Unique easy use disposable reactors
- A large choice of hardware and software tools allow fine tuned adaptation to your workflow

## Unrivaled gravimetric dispensing technology & exchangeable robotic tools

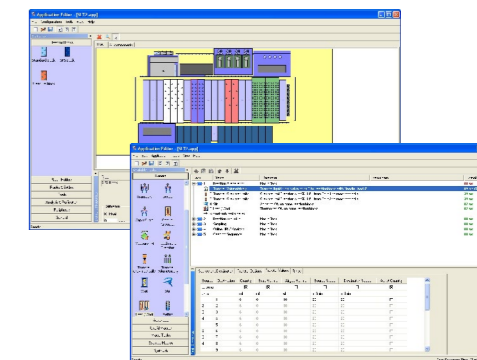
More than 30 features can be delivered with Chemspeed's unique robotic tool exchange technology, including unrivaled overhead gravimetric dispensing tools. Dispensing solids is as convenient and accurate as dispensing liquids. The product development R&D cycle is accelerated.



## Powered by AutoSuite ISYNTH user interface

AutoSuite ISYNTH is an intuitive user interface software which allows easy workflow orientated programming. Many features such as the gravimetric dispensing steps are automatically calibrated, eliminating tedious optimisation steps.

- The *AutoTeaching* tool allows to dispense solids, liquids, viscous liquids, and waxes without manual optimizing steps, and with high precision, accuracy and speed
- Easy programming: drag-and-drop workflow steps
- Barcode tracking
- Smooth integration into Chemspeed's workflow management software (see reverse)
- AutoSuite Application Programming Interface (API) for 3rd party software and hardware integration (standard integration of Spotfire, JMP, VirtualLab etc. as well as many instruments listed on the reverse page)



## Highly-functional disposable and reusable reactors format

Chemspeed is able to dispense virtually any type of compound into any type of container (vial, microtiter plates, bottles, reactors, formulation vessels etc.) (Please refer to other Workflow Brochures)

Chemspeed's ISYNTH robotic platform allows for the synthesis:

- In solution and on solid phase
- Under classical heating and/ or microwave heating condition
- In sophisticated disposable reactors & plate formats but also in reusable reactors technology
- Under ambient & elevated pressure up to 100bar
- Under superior inert gas condition
- Including many work-up function such as vacuum, filtration, evaporation, liquid/liquid extraction, SPE purification, crystallization, Dean-Stark, interface to analytical balances
- Of branched and multistep protocols for library synthesis
- Of peptide libraries (peptide wizard software)



### NOW AVAILABLE: Disposable glass reactors

- In solution and/ or on solid phase synthesis
- Crimp reactors for reactor racks (from 2 to 100 ml)
- Reactors for individual heating blocks (from 2 to 100 ml)

### Parallel reactor block and reactor array technical specifications:

- Up to 12 synthesis reactor arrays for a maximum of 192 parallel reactors
- Shakable/ heatable/ crimp rack
- Reactor volume: from 2 to 100 ml
- Arrays of double-jacketed glass or stainless steel reactors for a broad temperature (-70 to +180°C) and pressure (up to 100 bar) range
- Integrated reflux condensers
- Individually heated reactors (up to 16 different temperatures per block)
- Closure of synthesis reactors by a ceramic or stainless steel valve system (reactor block) allowing operation under high quality vacuum down to 10 mbar (for online evaporation) or inert atmosphere (no need for septa)
- Efficient yet gentle vortex mixing (up to 1,400 rpm), even while accessing the reactor



- Inert atmosphere for sensitive reagents/ inert reaction conditions/ low-temperature chemistry:
  - Inertization of the synthesis reactors (vacuum/ inert gas cycles)
  - Inertization of the entire workstations (self-contained hood)
- Optional pseudomechanical stirring for viscous liquids
- Classical heating and/ or microwave conditions
- Work-up and Analysis:**
  - Vacuum, filtration, evaporation, liquid/liquid extraction, SPE purification, crystallization, Dean-Stark, TLC, interface to analytical devices, etc.



## Accessories

All tools and accessories of Chemspeed's Swing, Synthesizer SLT II, Swave, AutoPlant, Formax, Applicator and Investigator are fully compatible with the **ISYNTH** robotic platform and vice versa (see the high output product development spiral below). Please refer to Chemspeed's other workflow brochures for modularity examples.

- Reusable reactor arrays
- Microwave reactors for batch and continuous microwave-assisted synthesis
- Connection to HPLC (MS), GC (MS) including interfaces
- Large choice of sample, reagent and customized racks
- Additional on-board balance for vial and plate weighing
- Cleaning module
- Tailor-made customer care module



## High output product development spiral

Chemspeed's AutoSuite workflow management software integrates with:

### 1. All of Chemspeed's robotic platforms for

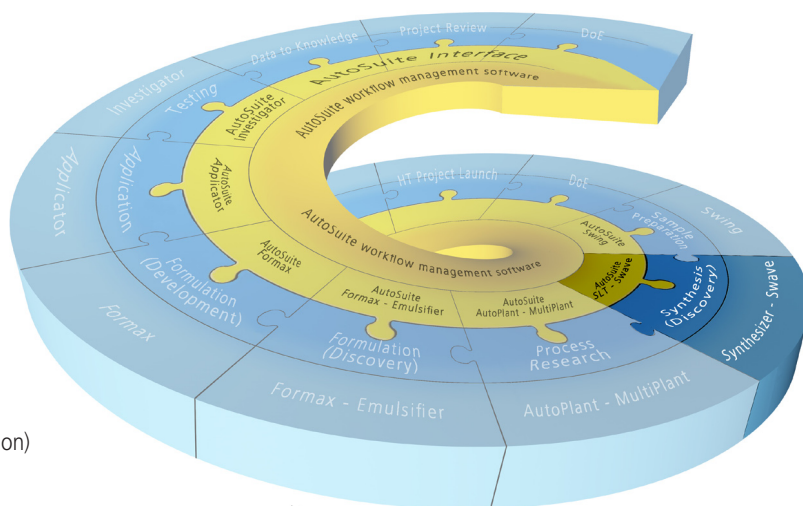
- Sample preparation workflows
- Parallel array synthesis workflows
- Parallel process research workflows
- High output formulation workflows
- High output application workflows
- High output testing workflows

### 2. Third party instruments

Chemspeed integrates a vast number of 3rd party components (e.g. in robotic tools). Please refer to Chemspeed's Workflow Portfolio brochure and/or contact your Chemspeed's representative.

### 3. Third party software such as

- SpotFire (premium data visualization and selection)
- JMP (design of experiments - DoE)
- VirtualLab (lab journal, workflow management, instrument control)
- and many other laboratory software through industry standard languages (SQL, .net, C#, etc)



Hardware - Software - Logistics  
Chemspeed Technologies offers all.

