

1. Who are we?

- **Established:** March 2017 with offices in Bangkok (Thailand) and Allerod (Denmark)
- **Owners:** Prof Rafiqul Gani; Dr. Surat Areerat; Dr. Sawitree Kalakul, Dr. Amata Anantpinijwatna; Dr. Anjan K Tula; & Prof Mario R Eden
- **Expertise:** more than 50 years of combined experience in development, implementation and application of state of the art systematic computer aided tools to solve problems

2. Our mission

Apply systematic computer aided methods and tools to provide sustainable solutions for a wide range of problems of industrial relevance and research significance, *reliably, efficiently and very rapidly*

3. Our vision

- Novel, innovative, & sustainable solutions can be found for well-known as well as new (bio-) chemical processes and/or products through the appropriate use of models, methods, tools and experience.
- To reach defined goals, corresponding targets that will lead to more sustainable alternatives, must be achieved.
- A “win-win” solution for all parties concerned.

4. Services we offer

- **Solving problems** (improved retrofit process design, process analysis, identify opportunities for improvements; better problem understanding of product and/or process in wide range of industries);
- **Education & training** (problem solving ,software training, special courses and workshops);
- **Projects** (consulting, commercial feasibility studies, what-if analysis, contract research);
- **Customized solutions** (retrofit, special software, ...);
- **Product-process portfolio** (add new options, ...);
- **Membership** (includes free software license & services)

5. Our experience

- **Chemical substitution & solvent screening:** many industrial problems solved (see several joint publications with industry – GSK, AstraZeneca, SCG, Syngenta, AkzoNobel, Mitsubishi Chem Corp, Alfa Laval, (BASF, Bayer, DSM, Total,)*)
- **Property modelling (predictive methods)** – Alfa Laval, Syngenta, Principal collaborators are from academia (USA, Brazil, Korea, Mexico, Malaysia, Thailand,)
- **Process synthesis & design*** – Alfa Laval, Union Carbide (before 1997), Firminech, FMC; Mitsubishi Chem Corp, SCG,
- **Chemical product synthesis & design*** – Syngenta, AstraZeneca, Bayer, AkzoNobel, Unilever
- **Integrated computer aided systems (ICAS)** – Many industrial users*

6. Our contact information

Website

www.pseforspeed.com

Address

PSE for SPEED Company Limited
294/65 RK Office Park, Romklao Rd., Ladkrabang
Bangkok, Thailand 10520
Tel: (+66)2-184-9719; Fax: (+66)2-184-9720

Branch

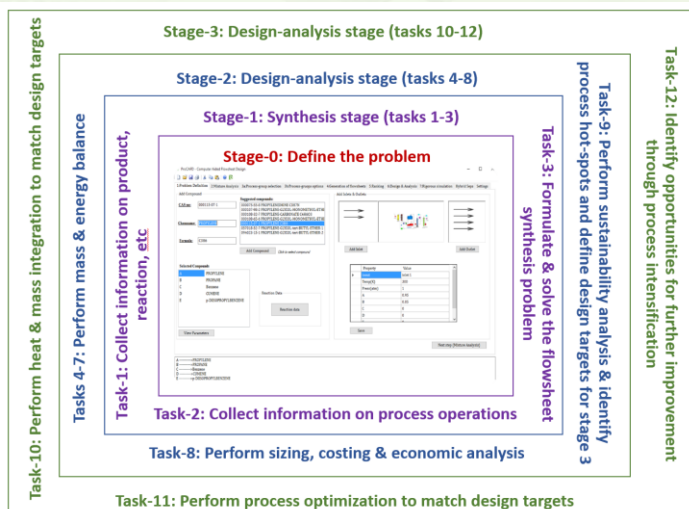
Skyttemosen 6, DK 3450 Allerod, Denmark
Tel: (+45)2-851-6305

Contact E-Mail

service@pseforspeed.com

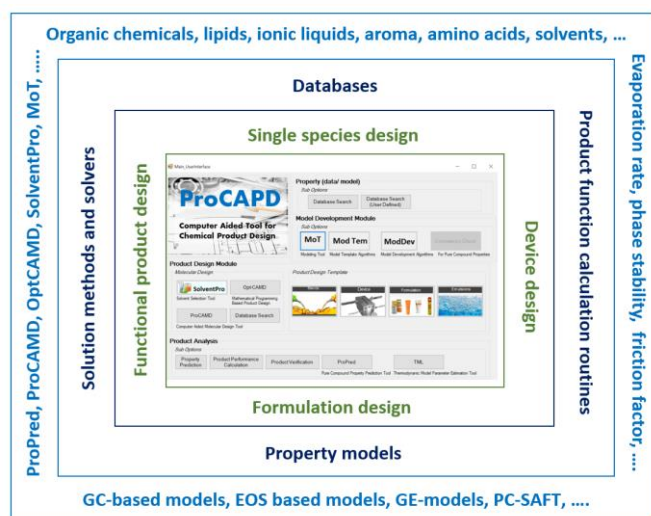
* Vast network of collaborators from academia

ProCAFD: Computer Aided Flowsheet Design



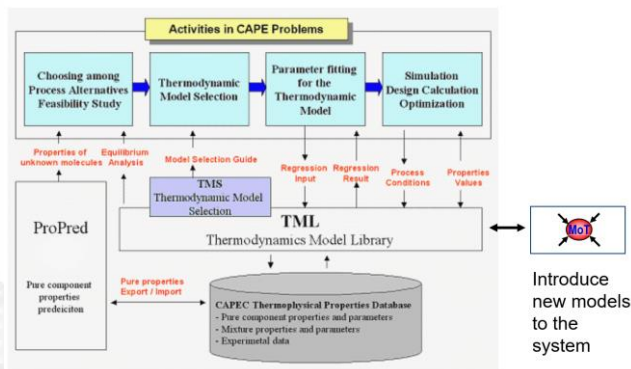
At the inner core, we have the user-interface of **ProCAFD**. The three stages consisting of 12 tasks are performed, as illustrated in the figure. First define the problem; then solve the synthesis problem in **stage-1**; then perform design-analysis after process simulation in **stage-2**; finally, in the outer layer (**stage-3**), apply process intensification, etc., to generate alternatives that are innovative & more sustainable process designs.

ProCAPD: Computer Aided Product Design



- The first and only software tool available for users in industry as well as academia for chemicals based products
 - Useful for chemical substitution problems, tailor-made blends, formulations and many more
 - Useful in retrofit design-analysis
 - Most used tools are Property-Prediction (ProPred) and computer aided molecular design (ProCAMD and SolventPro) – already used by many companies
- Gani & coworkers, 1984,2018*

Other software tools



ProMod: Computer aided modelling

ECON: Economic analysis

SustainPro: Sustainability analysis

LCSoft: Life cycle analysis

ProCAPE: Computer Aided Property Estimation (also online version)

* These software tools are new versions of ICAS (integrated Computer Aided System)