My interest in the computer modelling of the Screw Compressor/Expander started at Christmas 1978.
At Christmas there are so called intermediate days when not very much work is done.
During these days I happened to see a paper by Donald L. Margolis in the "ASME Journal of Engineering for Power".
The paper had the title "An Analytical Study of Intake Tuning for Helical - Rotor Expanders"
Actually I worked with Rotary Heat Exchangers, type Ljungström, but I heard from the compressor department discussions that a wish to be able to compute and analyze the influence of different parameters was in the air so to say.
Since I did not have much work during this days I took the possibility to study the paper. An interesting challenge was that it used "Bond-Graph Theory", which I never heard of before.
Since I was quite familiar with finite-difference modelling I took the opportunity to develop a simple program.
During these intermediate days I had some coffee breaks together with my boss and Åke Astberg (inventor of D-profile), who was the manager of the patents department.
I mentioned to them that I have had some private entertainment and they became very interested.
Then they reported to the President as well as the Board of SRM at that time.
And they became very positive and gave me possibility to get help with geometry calculations and access to a lot of laboratory test data.

Well, that was the start and then I further developed the model to include for instance, Oil injection, Water injection, Injection different fluids, Noise calculations, transient calculations, e.t.c….
Some of this work has been presented in my papers.

I remember that in order the find the right flow coefficients regarding the leakage paths we run an air compressor both as a compressor as well as a screw expander

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