

Dear reader,

One year after our successful Management-Buy-Out we at Arthur D. Little have now found a new home in the French Altran Group, Europe's leading technology consultancy. This move which has been the strongest change in Arthur D. Little's 117 years history has allowed us to preserve our global network and become even stronger as part of an organization with 18.000 consultants in all major countries around the globe. Our chemicals practice, which is one of the foundations of ADL has not only successfully managed this change process internally, it has also helped many leading companies to cope with an ever changing environment and find the right answers to strategic and operational challenges.

In this Chemicals Executive Newsletter we take a look at one major part of the industry: Specialty chemicals, a segment which will undergo substantial changes in the near future and we examine 5 participation models we expect to emerge from the restructuring of the industry. The second article deals with Buy-outs as a possibility to find new

homes for businesses no longer being considered as core.

We look forward to your thoughts about these ideas and others you would like to explore with us.



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Participation models in speciality chemicals

From an historical point of view, the sector of speciality chemicals emerged rather by chance than as the result of systematic development. Thus some special chemical companies (e.g. Rhodia, Clariant, Ciba and Avesia) formed as the left-overs of a strategic re-orientation of the parent company in the direction of pharmaceuticals. Others, on the other hand, developed from diversified companies or basic chemical producers (e.g. DSM, Degussa or ICI). However, the sector has meanwhile developed a clear identity of its own for investors, an identity which is manifested in sector reports, own special chemical indices and a large number of special chemical conferences.

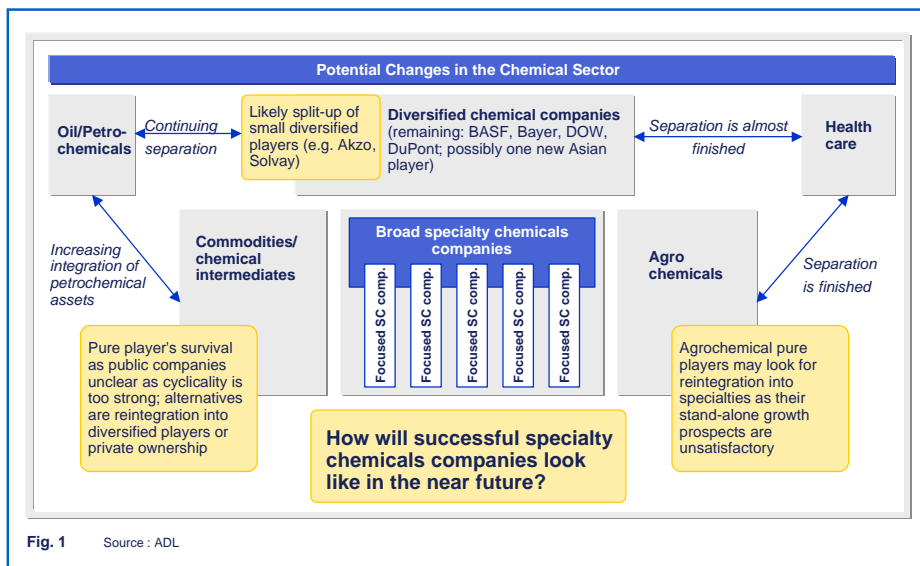
The basic differences between basic chemicals and specialties have already been described frequently and are, therefore, not to be listed in detail again here. What is important for the types of companies mentioned below is in particular the smaller size of the individual sub-markets of speciality chemicals, the greater importance of service as a criterion for purchasing the currently smaller maximum size of the companies (the sales of Degussa as the largest special chemical company are roughly half of the sales of BASF) as well

as the greater variety of speciality companies, which represents a simple consequence of the greater variety of products and of the areas of application of the specialties as compared with the basic chemicals.

The speciality chemicals field only shows a part of the overall chemical sector, which is subject to constant changes. Many of the developments are shown (Fig. 1), which affect the chemical industry as a whole, therefore, have direct effects on speciality chemicals.

From this a number of specific questions arise as to how successful special chemical companies should be structured in the near future:

- How important is the size of the company in the speciality sector ?
- Should speciality companies be focused or offer a wide portfolio ?
- What guiding idea is to determine the portfolio composition?
- Is a global presence necessary ?
- What competences does a company of speciality chemicals require ?



Size of a company

The question as to the appropriate size of a speciality company is asked at two different levels, namely at that of the individual market (this corresponds within the company mostly to the business unit) and at the level of the overall company. If we consider a fictitious company, which is active in the fields of water treatment, construction chemicals and polymer additives, we have, on the one hand the question as to how large the market share should ideally be in each case in individual sectors. On the other hand, we have the question as to whether the clustering of these three different areas in one single group of companies brings about additional synergies.

The first question has been examined in detail in the PIMS (Profit Impact of Marketing Strategy) study, a comprehensive study by the American Strategic Planning Institutes. The results show, independently of the sector, a clear correlation between profitability and market share. Thus a special chemical company in the markets cultivated should in each case strive for a high relative size. The question as to the ideal size at the level of the overall groups of companies can be answered a little less clearly. It can be shown that at present larger companies enjoy a relatively higher rating (in the form of a higher price-earnings ratio) than smaller ones and that the attractiveness of large companies for talented staff is surely greater. Yet a more precise look at the synergies within a chemical company consisting of several business units shows that these occur mainly only for the costs of marketing and sales making up less than 20 % of the total costs. The synergy potential between different business units of a speciality company is thus limited, and the marked superiority of a speciality company consisting of several business units is not detectable.

Focusing

The portfolio of companies of speciality chemicals can be strongly focused or also very broadly based. Our studies show that focused companies such as Ecolab (strong focus on cleaning) and Johnson Matthey (Focus on catalysts and inorganic pigments) frequently earn above-average earnings. On the other hand, such focusing can also produce disadvantages, if in that

way the company becomes very markedly dependent upon individual sub-markets or the focusing restricts growth.

Portfolio composition

Apart from for purely single-product companies, such as are hardly to be found in speciality chemicals, for all other companies the question arises as to how the portfolio should be composed. Basically, this is the question as to how synergies can be achieved within multi-product companies. In principle, here various options are available to companies in special chemicals:

- Formation of competence platforms, i.e. portfolio based on a joint technology or competence (e.g. silicon chemicals) – this model does in fact permit synergies, but under certain circumstances restricts the size of the business and is therefore only suitable for small and medium-sized companies.
- Family-tree-synergies, i.e. portfolio composition based on common precursors (e.g. production of a portfolio of substituted aromatics) – this model also permits synergies, that in the speciality area restricts the size of the business even to a greater extent.
- Industrial focus, i.e. portfolio composition based on the entire requirements of a specific customer industry – this model maximises the use of customer contacts and is therefore, in the event of the correct choice of the target industry, also suitable for larger special chemical companies.

- Individual opportunities, i.e. portfolio composition based only on the profit possibilities of the individual businesses (BUs) primarily neglecting synergies – this model is in particular suitable for very large special chemical companies, which consider their portfolio as similar to an investment fund, which holds shares in different, non-related chemical companies. The prerequisite is – as also in the case of the other options – a strong position in the individual business fields.

Globalised activities

Globalised activities in many segments of special chemicals are urgently necessary, for example in the presence of globally based customers (e.g. electronic chemicals), high importance of production efficiency (e.g. vitamin production) or higher research costs (e.g. fine chemicals). Compared with this, in other segments also regional special chemical companies will be able to assert themselves, for example, if the customers are essentially regionally based (e.g. leather chemicals), if the regional product requirements vary very widely (e.g. construction chemicals), or of products which are only transportable to a limited extent (e.g. certain paper chemicals).

Core competences

Special chemical companies must, according to our experience, distinguish themselves in at least one of the three core competences:



- Product innovation – that way product leadership can be achieved
- Process knowledge – it permits the most cost-effective production
- Problem solving capability – it permits offering the customer the best overall solution

Which of these core competences is necessary to a particular extent in each case, depends to a large extent on the particular special chemical segment. For example in the vitamin area, in particular by knowledge of the process a leading position can be achieved, while in the segment of water treatment the problem-solving capability plays a very much greater part. To this extent it is quite necessary for a large special chemical company with the most varied activities to develop different core competences in the different business areas.

From the core questions discussed above, an area of option for special chemical companies emerges, which comprises the particular appropriate alternatives for action (Fig. 2).

Type 1, the regional niche player, concentrates on a specific industry and a certain geographical region (Fig. 3). On this limited playing field, he is primarily successful by means of exact customer and market knowledge, as well as good adjustment to regional requirements.

Type 2, the Global Technology Specialist, concentrates on innovation and in a process uses a limited number of specific technologies (Fig. 4). His particular skills are in the area of research and technology management, as a result of which he achieves, among other things, the quick application of innovations to marketable products.

Type 3, the global solution supplier (Fig. 5) is strongly orientated to specific industries. It offers a comprehensive range to them, which often also includes services. The ability to holistically solve customers' problems, represents his core success factor.

Type 4, the global process specialist (Fig. 6) transfers the business model already successfully practised for basic chemicals, which is based on cost-effective production, to speciality chemicals. The spe-

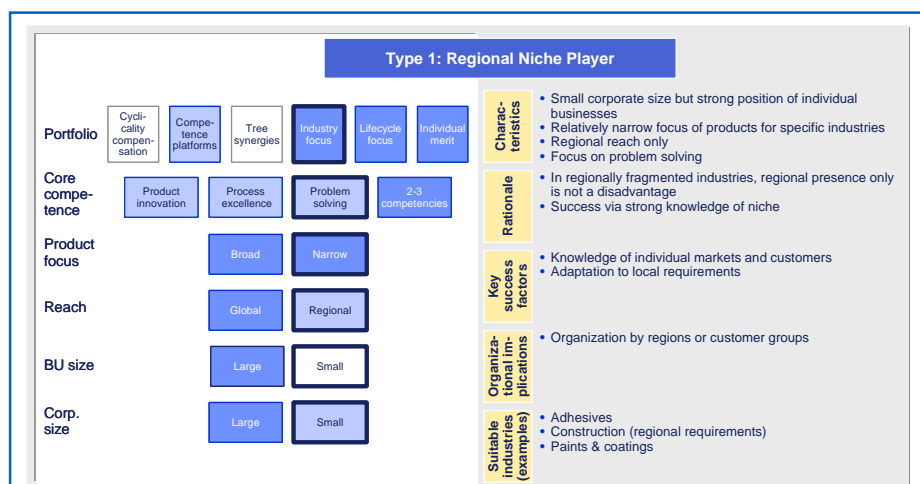


Fig. 3 Source : ADL

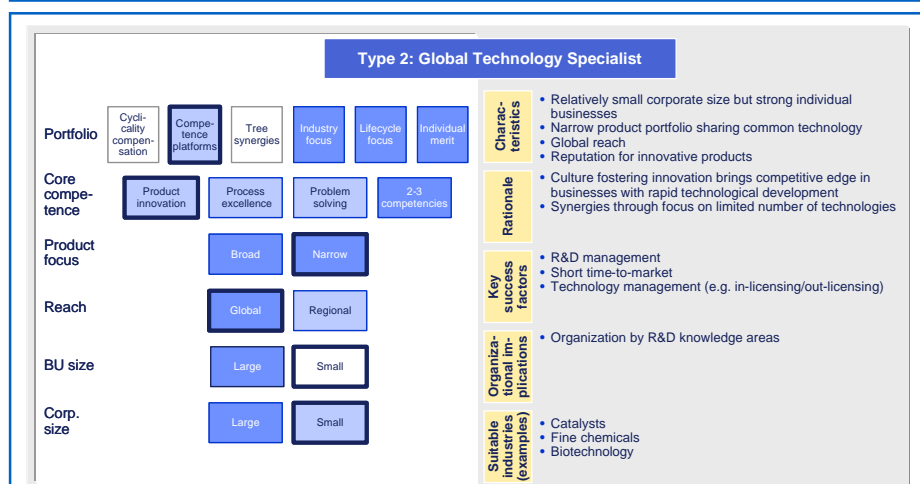


Fig. 4 Source : ADL

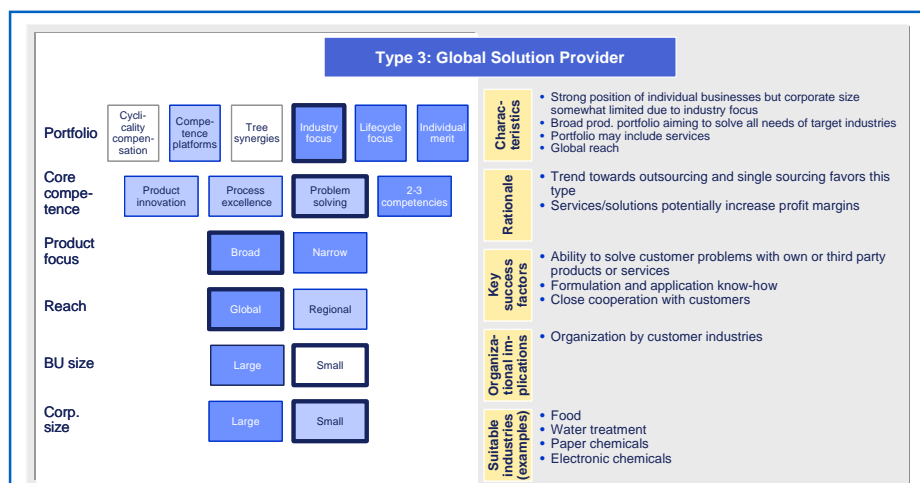


Fig. 5 Source : ADL

cial skills of this type are accordingly to be found in the area of the constant optimisation of production processes.

Type 5, the global portfolio manager (Fig. 7) unites a large range of difficult activities, which do not have any superordinated common points, but which are

assessed according to their individual earnings potential. At the level of the overall company this type is characterised by particularly good portfolio management and good relations with the investors.

Not all of these 5 types are suitable for every speciality chemical company. As

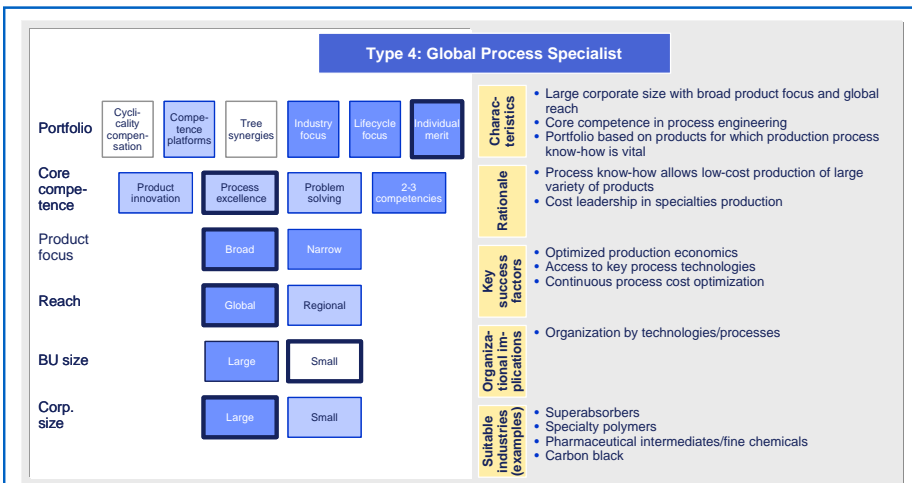


Fig. 6 Source : ADL

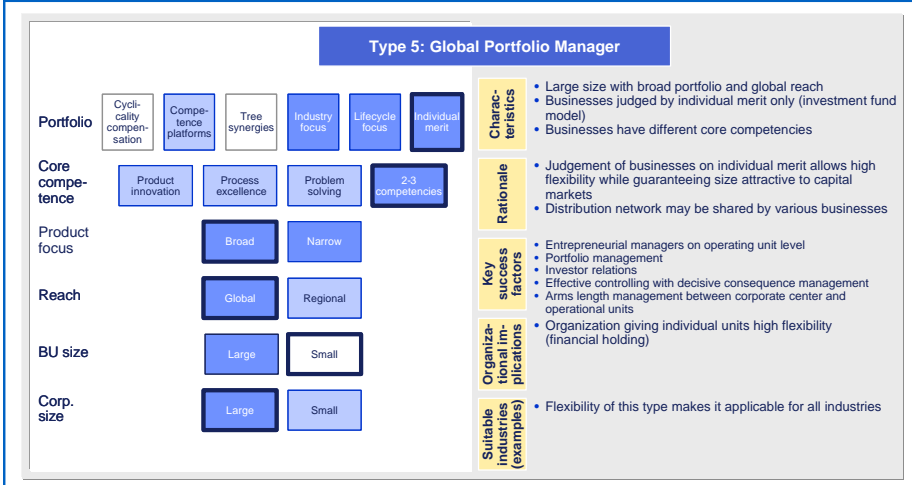
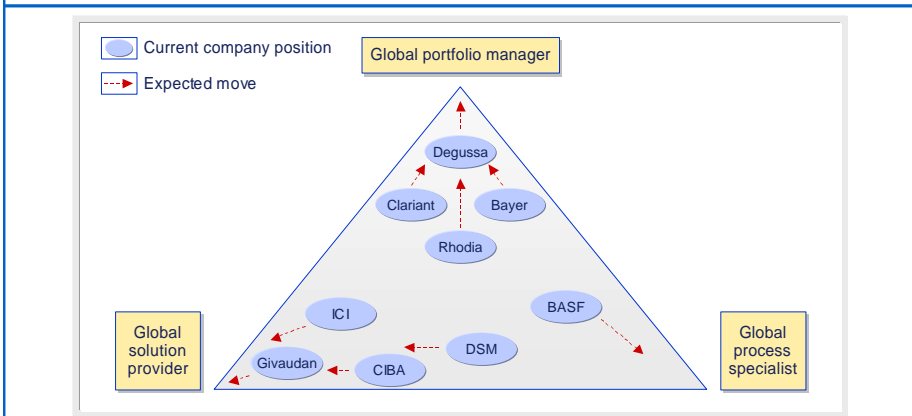


Fig. 7 Source : ADL

Type	Realistic Maximum Size (sales in bn €)	Suitability for Big Players in Specialty Chemicals
Regional niche player	<1	⚡
Global technology specialist	4 - 5	⚡
Global process specialist	10 - 15	✓
Global solution provider	5 - 10	(✓)
Global portfolio manager	20 and above	✓

Fig. 8 Source : ADL estimate based on suitable segments and segment sizes



already mentioned, Types 1 and 2, in particular, are a clear restriction of the maximum size of a company orientated to this type. Figure 8 shows the approximate maximum size for which the respective types are suitable.

According to that, the largest of the currently existing companies in speciality chemicals have only the bottom three types open to them, as the regional or technological specialisation would be conceivable only in conjunction with a reduction in the size of the business. Our estimate is, therefore, that the large players in European speciality chemicals must decide on whether they want to position themselves as suppliers of solutions, as process specialists or portfolio managers.

An important part is played in this context by the starting situation of the particular companies, which already contain marked indications of the type most favourable for the company. Our estimate of some important companies, as well as the orientation to one of the three companies to be expected is shown in Fig. 9.

In order to come closer to the respective ideal type, the companies have a number of steps such as company acquisition and sales, but also internal investments in processes, technologies and portfolio extensions open to them. General statements without a knowledge of the specific company situation are not possible here; rather on a basis of a detailed analysis suitable steps must be defined and implemented. This is because none of the currently active companies comes close enough to the ideal types described here in order to guarantee long-term success of the company. Therefore, in the near future we expect far-reaching changes in speciality chemicals, which will lead to a very much clearer identity of the individual participants.

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