

## Effective procurement negotiations in the downturn

*Gregor Berz, Andy Dvorocsik, Daniel Deneffe and Ralf Gampfer*

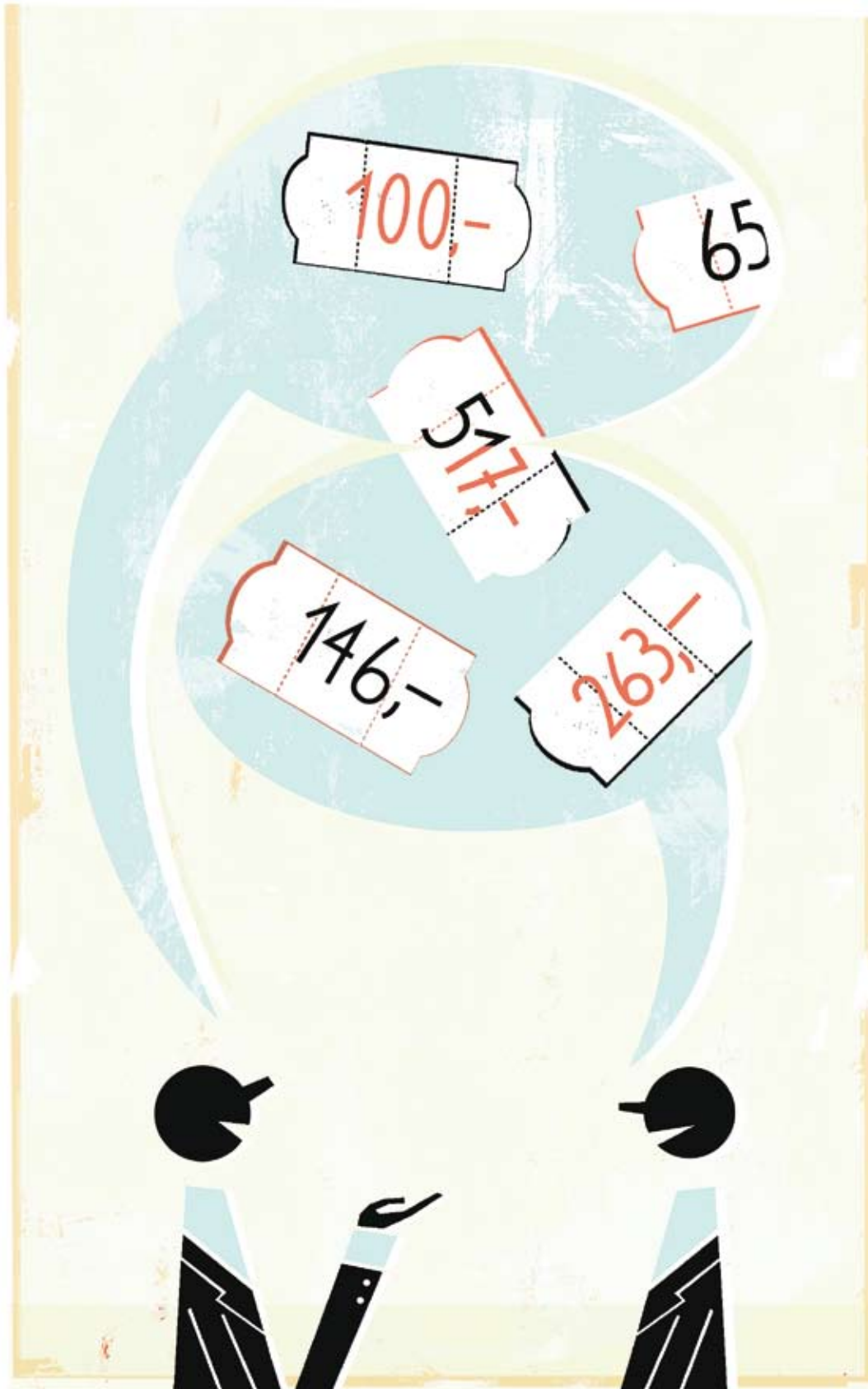
**The squeeze is on for sub-assembly manufacturers. Sharp declines in demand for the products of their customers has left them under heavy pressure to reduce their prices, and the only way they can do that is by ensuring lower prices from their own suppliers. But getting substantial price reductions without risking the survival of your precious supply chain is no simple matter and requires the best possible negotiation skills. This article sets out five rules for negotiations that will ensure that your company finds its way through this difficult procurement situation and emerges with both lower prices and an intact supply chain.**

It all sounds so obvious for sub-assembly manufacturers. On the one hand, their customers, i.e. finished product manufacturers, are currently suffering from declining demand and overcapacity, and are pressuring sub-assembly manufacturers for lower prices. On the other hand, raw material prices have collapsed dramatically. For example, prices for raw steel, cathode copper and brazen semi-finished products declined by between 40 and 60 per cent during 2008. As a consequence, the only thing that sub-assembly manufacturers seemingly need to do to cope with the price pressure from their customers is to claim lower prices from their own suppliers of components.

Alas, supplier price reductions don't just happen. If sub-assembly manufacturers want to extract supplier price reductions that will really give them relief from the price squeeze by their own customers, they will have to excel in negotiation with their suppliers. But achieving excellence in procurement negotiations without harming your vital suppliers is more easily said than done. In our experience, you will achieve excellence if you obey the following five rules:

1. Create competition between your suppliers
2. Use total-value-of-ownership to compare suppliers' offerings
3. Empower the procurement department to both negotiate and decide
5. Choose the negotiation and decision mechanism that is best suited to the bidding situation
5. Use the negotiation and decision process systematically.

In this article, we will explain these five rules in detail, and illustrate them with a real-life but disguised case study of a company called Hamstadt (see side text for background



information about the company). While Hamstadt operates in the automotive supply industry, the rules have proven to be effective in any industry.

*Five rules help companies achieve excellence in procurement negotiations. But a clear negotiation process in accordance with them is necessary.*

#### Case study 1

Hamstadt is a tier-one automotive supplier. In the midst of preparations for the 2009 annual price negotiations with its suppliers, Hamstadt was hit by the economic crisis. Two unexpected situations occurred:

1. Automotive OEMs (original equipment manufacturers) reported dramatic drops in demand for vehicles. They responded by reducing 2009 forecasts, cutting cost brutally and closing down plants. Hamstadt was suddenly under enormous pressure and forced to reduce its own volume forecasts. Initially some of Hamstadt's suppliers tried to benefit from this situation by raising prices in response to the increased uncertainty and reduced economies of scale. Soon, however, the overall decline in demand made Hamstadt's smaller volumes even more highly sought-after by suppliers.
2. Buyers at Hamstadt's procurement department observed drastic price reductions in raw material prices. This was an excellent argument for them to force suppliers' prices down, as raw materials play an important role in price calculations even for complex products. In order to realise the price reductions, Hamstadt's chief procurement officer initiated a negotiation process in accordance with the five rules explained in this article.

### Rule 1: Create competition between your suppliers

The first rule is to create competition between your suppliers. Even if you already have alternative suppliers, it may do no harm to expand the range of suppliers from which you can invite bids. The "competition matrix" is an important tool for making your alternative suppliers and the switching options visible for your most important materials.

Table 1 shows the competition matrix for a complex mechanical component at Hamstadt. It indicates current prices for current suppliers and offered prices for potential suppliers. Hamstadt developed and effectively used similar matrices for all of its important materials such as plastic parts, metal parts and electronic components. The matrix shows that for each customer OEM project, at least two suppliers were potentially available.

Switching or replacing suppliers can be a very political decision, often characterised by internal power struggles. Hamstadt's purchasing process was structured in such a way that higher levels of approval were required for more important purchases, and could include intervention by the executive board. For the selection of strategically important development partners, even the CEO joined the discussion. Fortunately, the competition matrix helped the company to assess and reach decisions on more objective grounds.

*Switching or replacing suppliers can be a very political decision, often characterised by internal power struggles.*

Table 1 **Example of a competition matrix**

Customer	Project	Supplier A	Supplier B	Supplier C	Supplier D
OEM 1	Project 1.1			103.50 €	112.50 €
OEM 2	Project 2.1			117.90 €	106.50 €
OEM 2	Project 2.1			124.20 €	106.50 €
OEM 2	Project 2.2			128.10 €	106.50 €
OEM 2	Project 2.3			109.80 €	106.50 €
OEM 2	Project 2.4			111.60 €	106.50 €
OEM 3	Project 3.1	117.30 €	105.90 €		
OEM 3	Project 3.2	117.30 €	107.40 €	115.50 €	
OEM 4	Project 4.1			\$198.00	
OEM 5	Project 5.1			157.20 €	
OEM 6	Project 6.1	126.90 €	111.30 €		

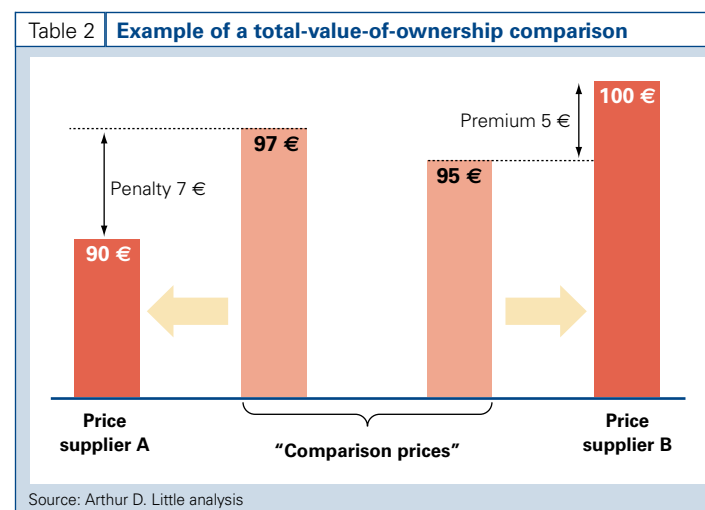
current prices Current supplier  
offered prices Potential supplier (business shiftable)  
 Business not shiftable to this supplier (technical reasons)  
 Business not shiftable (supplier not approved by OEM)

Source: Arthur D. Little analysis

## Rule 2: Use total-value-of-ownership to compare suppliers' offerings

Once all the potential suppliers for a given component are identified, you can compare their offerings. The complication is that for all but the simplest components you cannot compare on the basis of price alone. You need a way to bring into the picture all aspects that determine the performance of the offerings of your suppliers. The total-value-of-ownership (TVO) framework allows you to do so.

With the TVO framework, you start with the initial prices quoted by your suppliers. You then deduct a premium from or add a penalty to the initial price as a function of the performance of the supplier on your supplier evaluation criteria. The magnitude of the premium or penalty depends on the value of the performance to your business. For example, if you expect a delivery lead-time of 10 days and every day gained represents a value of € 1 to you, a supplier who can deliver in eight days gets a premium of € 2. Conversely, if every day lost represents a loss of € 2 to you, a supplier who can only deliver in 11 days gets a penalty of € 2. By extracting all the premiums and adding all the penalties, you can generate a comparison price (see Table 2). When you start negotiating with your suppliers, they can improve not only their prices but also the factors that determine their premiums and penalties.



This approach has several benefits:

- It leads to the selection of suppliers with the best price-performance ratio.
- It creates more intensive competition that lends itself to the use of powerful negotiation techniques, as we will see later (rule 4).
- It presents the potential for win-win situations, as suppliers have an incentive to improve their performance in general.
- It improves business relations with suppliers, as the discussions are hard but fair.
- It creates internal transparency about supplier selection decisions.

*Discussing the TVO framework with suppliers generated concessions from some suppliers about terms and conditions, such as payment terms and signed liability clauses, and raised the sense of competition among the suppliers.*

At Hamstadt, supplier evaluation criteria included payment terms, currencies, liability clauses, logistics concepts and quality. Future decision criteria such as the supplier's conduct in long-term business relationships, e.g. materialising in sliding-price clauses for raw materials, were also considered. With the TVO framework, internal discussions at Hamstadt about potentially switching suppliers became structured, objective and target-oriented. Whenever a discussion about a potential switch moved up to the executive board, the discussion was held and the decision made based on the TVO framework. For example, an exception was made to grant a premium to a special long-term development partner, with the direct approval of the executive board.

Hamstadt also used the TVO framework externally with suppliers, often involving bilateral pre-negotiations about individual aspects of the framework. Discussing the TVO framework with suppliers generated concessions from some suppliers about terms and conditions, such as payment terms and signed liability clauses, and raised the sense of competition among the suppliers.

### Rule 3: Empower the procurement department to both negotiate and decide

The combined use of the competition matrix and the TVO framework enables you to let price negotiations go hand-in-hand with potential supplier switching discussions. The TVO framework in particular shows all preferences and decision criteria for all of the suppliers concerned.

Furthermore, the use of an approved TVO framework allows you to empower the procurement department to decide about switching suppliers even during a negotiation. No other argument will bestow as much negotiating power on the procurement department as this mandate to take decisions. Only when a supplier is certain that a concession granted during negotiation will decide the deal in his favour will he be prepared to offer his best price.

### Rule 4: Choose the negotiation and decision mechanism that is best suited to the bidding situation

Having established “comparison prices” with the TVO framework, you can start negotiating with your suppliers in an effort to lower prices and/or improve performance. A diverse range of effective negotiation mechanisms exists (see box).

Which particular mechanism is the most appropriate depends on the competitive characteristics of the situation at hand. Explaining which mechanism is optimal in which situation is beyond the scope of this article. Factors that play a role in making the choice of mechanism include the number of bidders, the bidders’ aversion to risk, the cost level of the bidders, the likelihood of collusion among bidders, the bidders’ history with auctions and the level of product complexity. “Mechanism design theory” provides a full explanation about these choices (see reference at the end of this article). Let’s use the Hamstadt case to give some practical examples.

*Factors that play a role in making the choice of mechanism include the number of bidders, the bidders’ aversion to risk, the cost level of the bidders, the likelihood of collusion among bidders, the bidders’ history with auctions and the level of product complexity.*

#### Basic Procurement Negotiation and Decision Mechanisms

##### English auction:

Suppliers underbid each other in a bidding process with more or less transparent prices until all bidding stops. The business is awarded to the bidder that placed the lowest bid.

##### English ticker auction:

The buyer reduces the price in predefined steps until only one vendor remains who accepts that price.

##### Dutch auction:

The buyer increases the price in predefined steps until a first vendor accepts.

##### Second price sealed bid:

Every bidder places a one-shot offer. The business is awarded to the bidder with the lowest bid at the price offered by the second lowest bidder.

##### First price sealed bid:

Every bidder places a one-shot offer. The business is awarded to the bidder with the lowest bid at the price he offered.

##### Chain of take-it-or-leave-its:

A first supplier is asked to accept a very low price. If he accepts, the business is awarded to him. If he declines, a second bidder is asked to accept the price, and so on.

##### Prisoner’s dilemma as negotiation element:

Two suppliers are asked to reduce their prices on running business.

Hamstadt suppliers C and D (see the competition matrix in Table 1) are active suppliers that might like to take over each other’s business. In a situation like this, the “prisoner’s dilemma” mechanism could be used as a negotiation tool. However, in on-going business the use of this mechanism contains a risk: it will lead to nothing if both suppliers

act defensively and find it more important to retain the status quo than to compete for more business. Neither of the two will lower its prices (or at best, by a tiny bit) and both will retain their business.

After evaluating the behaviour of suppliers C and D and taking the uncertain economic climate into consideration, Hamstadt concluded that the risk of the two suppliers employing defensive strategies was extremely high. Both suppliers had to be put under pressure to lower prices. Furthermore, an internal decision called for only one single supplier for all customer projects, i.e. either supplier C or supplier D.

To that effect, Hamstadt gave supplier C a target price for all projects concerned. If it did not accept this price, supplier D would be presented with the same target price adjusted by the premium established by the TVO framework. If supplier D were to reject the price as well, supplier C would in turn be presented with a slightly higher target price. This procedure is basically a Dutch auction with a minor advantage for supplier C.

### **Rule 5: Use the negotiation and decision process systematically**

Applying the negotiation mechanisms described in rule 4 looks like a straightforward process. Unfortunately, unexpected challenges do occur. For instance, a supposedly aggressive supplier suddenly appears to lose interest in a deal, and vice versa. In such situations it is up to the negotiator's skill to adapt and interpret the mechanism prescribed.

In these cases it is important to stick to once-communicated decision mechanisms as far as possible. In the context of its yearly price negotiations for 2009, Hamstadt managed to apply all predefined decision mechanisms. It was able to establish a reputation for reliable decision-making.

*The various auction and bidding mechanisms help companies get the best prices.*

### **Case study 2**

As part of its contract to supply an OEM's upcoming production run, a tier-one electronic control supplier needed to contract a tier-two ASIC (Application Specific Integrated Circuit) supplier. Based on technical considerations, the electronic control company's design department identified a preferred ASIC supplier, negotiated a seemingly attractive price and recommended that the procurement department execute a contract.

Procurement immediately recognised an opportunity to reduce its purchase price by increasing competition between suppliers (rule 1). They then identified three additional qualified tier-two suppliers to participate in the negotiation process. The design department's initial preference was reflected as a premium in the TVO framework (rule 2).

Each of the four suppliers found the opportunity to be very attractive, due to the volume - € 60 million over seven years - and the credentials conferred by providing ASIC technology to the auto industry. Procurement began negotiations with all four suppliers, quickly reducing its purchase price level significantly below the starting point. Bearing this in mind and after the preferred tier-two supplier had been granted an adequate premium, the design department was prepared to let procurement make the final decision between the four tier-two suppliers (rule 3). Thus procurement found itself in a position to hold a final round of negotiations in which the decision was made.

For this final negotiation, procurement conducted a Dutch auction with all four suppliers. Mechanism design theory recommends a first-price-type auction, when at least one supplier can be expected to bid for the business at a very low strategic price (rule 4). The electronic control supplier successfully used the Dutch auction (which is a special first-price-type auction) to reduce its purchase price by 35 per cent, or about € 20 million below the initial level.

After the auction the losing bidders were interviewed about their calculations and bidding intentions (rule 5). Bidders revealed that if the tier-one supplier had used a standard approach such as an English auction, a reduction of only 15 per cent would probably have been achieved. The structured approach used here resulted in incremental savings of 20 per cent or € 12 million.

To have a reputation for reliable decision mechanisms means that your suppliers know when they have to reduce prices in order to influence your decision (see case study 2 in side text). Consistently applying rules 1-4 creates sustainable negotiation power.

The benefits of applying the above five rules systematically rather than using a traditional procurement approach are better, faster and sustainable results (see Table 3 for a comparison).

Rule	Main advantages	Traditional procurement
1 Create competition between your suppliers	The competition matrix summarises the organisation's objective assessment of its own negotiating power and of realistic ways to strengthen that power.	Classic material group strategies often reduce shiftability and competition between suppliers. This happens when a "target supplier portfolio" is defined without consideration of dynamic negotiation results.
2 Use total-value-of-ownership to compare suppliers' offerings	The price-performance ratio of alternative suppliers is compared using a total-value-of-ownership framework. With it, internal discussions about switching suppliers become structured, objective and target-oriented. Openly discussing the framework with suppliers easily generates success and creates an impression of real competition among the suppliers.	State-of-the-art procurement considers a "total view" on all relevant decision criteria in a complex, multidimensional comparison scheme, but without direct link to price negotiations. In particular, usually no discussions with the suppliers about single decision criteria take place.
3 Empower the procurement department to both negotiate and decide	A cross-functionally aligned bonus system makes it possible to provide procurement with a decision mandate in negotiations. No other argument will generate as much negotiating power as this mandate to decide.	Procurement has to reduce prices, but supplier decisions are taken by internal stakeholders ahead of the negotiations.
4 Choose the negotiation and decision mechanism that is best suited to the bidding situation	Every negotiation has its own competition scenario for which an individual negotiation and decision mechanism will be the optimum choice. At this point the current situation of the suppliers in their respective markets is taken into special consideration.	No systematic choice of negotiation / decision mechanism. Procurement results depend on negotiation skills of buyers.
5 Use the negotiation and decision process systematically	The relevant goal besides reducing prices in the short run is to create a reputation for reliable decision-making in the negotiation process. This will secure sustainable success in negotiations.	Occasional usage of certain negotiation tricks. In extreme cases, a negative reputation for non-reliability of promises made by certain buyers may be observed.

Source: Arthur D. Little analysis

## Insights for the executive

Declining market demand and over-capacity drives finished product manufacturers to put price pressure on their suppliers, i.e. the manufacturers of sub-assemblies. This forces the latter in turn to re-negotiate contracts with their suppliers. Given the brutal nature of the current economic crisis, it is crucial to extract important price concessions from suppliers fast, yet without harming the long-term prospects of vital suppliers.

The traditional procurement approach is ill-suited to that challenge. It relies too much on the negotiation skills of individual buyers, leads to adversarial relations with suppliers and, most importantly, does not achieve the best price-performance results. In our experience, you will achieve excellence in procurement if you obey the following five rules:

- **Create competition between your suppliers.** Even if you already have alternative suppliers, expand the range of suppliers from which you can invite bids. Make your alternative suppliers and the switching options visible for your most important materials.
- **Use total-value-of-ownership to compare suppliers' offerings.** Start with the initial prices quoted by your suppliers. Then deduct a premium as a function of the performance of the supplier on your evaluation criteria, with the magnitude of the premium depending on the value of the performance to your business.
- **Empower the procurement department to both negotiate and decide.** Allow the procurement department to decide about switching suppliers even during a negotiation, as long as they stay within boundaries prescribed by the total-value-of-ownership framework.
- **Choose the negotiation and decision mechanism that is best suited to the bidding situation.** Instead of relying on the personal negotiation skills of the buyers, prescribe upfront which formal negotiation mechanism (English auction, Dutch auction, etc) you will use as a function of the competitive characteristics of each specific situation.

- **Use the negotiation and decision process systematically.** Be transparent toward suppliers about the negotiation and decision mechanism that will be applied, and stick to it as much as possible. Revise and adapt the prescribed mechanism only by exception.

*The approach presented in this article is grounded in mechanism design theory. For more information about the application of this theory in price negotiations, please see Gregor Berz, “Game Theory Bargaining and Auction Strategies” (“Spieltheoretische Verhandlungs- und Auktionsstrategien”), Schäffer-Poeschel Verlag, Stuttgart, 2007.*

*Gregor Berz*

*... is a Principal in Arthur D. Little's Munich office and member of the Operations Management Practice. He specialises in (reverse) pricing and strategy development in sales and procurement.*

*E-mail: [berz.gregor@adlittle.com](mailto:berz.gregor@adlittle.com)*

*Andy Dvorocsik*

*... is a Director in Arthur D. Little's Houston office where he leads the Americas Chemical Practice. He specialises in strategy, pricing, and procurement.*

*E-mail: [dvorocsik.dndy@adlittle.com](mailto:dvorocsik.dndy@adlittle.com)*

*Daniel Deneffe*

*... is a Director in Arthur D. Little's Brussels office and member of the Strategy and Organisation Practice. He specialises in the area of marketing strategy, margin management and pricing excellence.*

*E-mail: [deneffe.daniel@adlittle.com](mailto:deneffe.daniel@adlittle.com)*

*Ralf Gampfer*

*... is CEO of the Institut für Angewandtes Mechanism Design, Munich, and cooperation partner of Arthur D. Little. He specialises in the application of game theory in practice.*

*E-mail: [gampfer.ralf@adlittle.com](mailto:gampfer.ralf@adlittle.com)*