

A mixed mood – depending on the region

A considerable 269 solar thermal manufacturers took part in the ISOL autumn survey – a good 20 percent more than in the spring of 2010. The index reflects the market development worldwide: record sales in Brazil, a market setback in Canada and Germany, a slight downward trend in Austria and cautious optimism in Italy.

Things have turned out as predicted. The mood in the European solar thermal industry has not improved since the spring. The ISOL Index of the current business situation in the autumn has remained constant at 44 points (Fig. 1). Thus, the weak forecast that the European solar thermal industry made in the spring of 2010 for the next six months has unfortunately come entirely true. For the year 2010, the German consultant Werner B. Koldehoff predicts another decline in the newly installed collector area in Europe – this time by 14 % (after a 10 % decline in 2009). Nevertheless – and this raises hopes that a trend reversal is in sight – the companies are already looking to the future with much greater optimism. The green arrow in Fig. 1, which symbolizes the average six-month prediction of all the 127 European companies, is considerably thicker than in the spring survey for the ISOL Index (see S&WE 6/2010, page 62). Thus, the bottom of the trough in collector sales in Europe was probably passed in 2010.

The ISOL Index is a barometer of the solar thermal industry's level of satisfaction with its present business situation and with its business expectations. In September/October 2010, the German agency solrico surveyed around 500 companies worldwide, already for the second time. These included collector and storage tank manufacturers as well as suppliers of machines and coated sheet metal. A total of 269 companies took part in the standardized survey procedure, 21 % more than in the first ever ISOL Index survey in April/May 2010.

Solrico weights the replies to the six questions according to a points system. From the results it is able to calculate an ISOL Index ranging between zero and 100 for each company participating in the survey. Alternatively an "ISOL Index for the current business situation" (current status) can be calculated only from the first three questions and the "ISOL Index

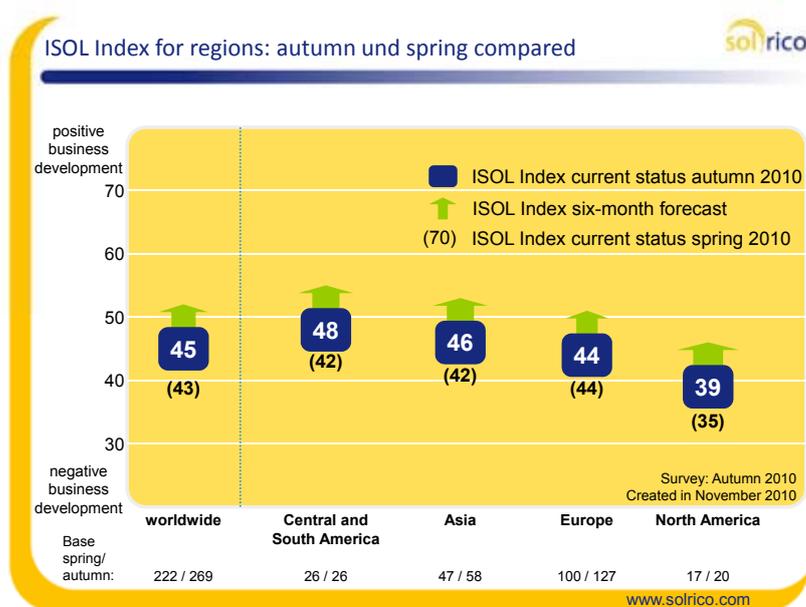


Fig. 1: ISOL Index for different regions of the world. The figures in the blue boxes represent the current business situation (between 0 and 100 points), which refers to the first three Index questions. The green arrows express the business expectations for the next six months (the thicker the better) – based on the other three Index questions. The figure in brackets gives the ISOL spring index of the current business situation. The base specifies the number of questionnaires that have been included in the respective regional ISOL Index.

Diagrams (7): solrico

six-month forecast” from the other three questions. Fig. 1 illustrates the index current status as well as the forecast for various regions of the world. The corresponding point score is the average of the company indices for the respective region. The “base” is the number of questionnaires that have been included in the average. For comparison, the ISOL Index of the corresponding region from the spring survey is given in brackets.

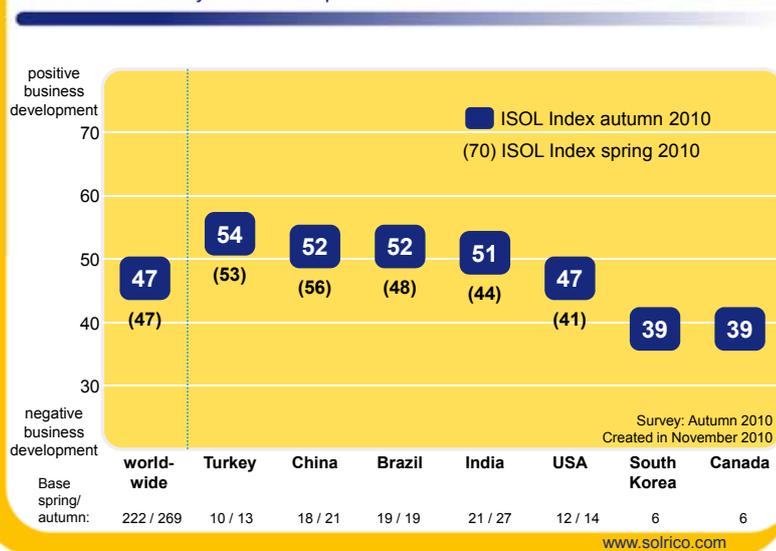
Brazil and India: the winners of the ISOL autumn index

The upward trend outside Europe that had already been expected by the companies in the spring has come completely true. The ISOL Indices for the current business situation of all the three regions represented in Fig. 1 have taken a clear leap upwards: by six points in Central and South America and four points each in Asia and North America. The country indices of a few of the core markets outside Europe are illustrated in Fig. 2. The corresponding spring index values are given in brackets.

The Indian and the Brazilian companies consider themselves on the winning side. Their autumn indices have risen by 7 and 4 points respectively, and with 52 points for Brazil and 51 points for India, they clearly exceed the world average of 47 points. In both countries there are good reasons for the upswing. In Brazil, more and more cities are passing solar construction regulations requiring solar thermal installations for newly constructed private residential buildings and also for hotels, barracks, swimming pools, schools or sports clubs. On top of that, Brazil will be hosting both the 2014 Football World Cup and the 2016 Olympic Games and is now planning the construction of 60,000 hotel rooms, many of which will be in cities with solar building laws. Another factor contributing to the record sales of the Brazilian solar thermal industry is the government’s social housing scheme “My House My Life” (Minha Casa Minha Vida). In the next two years, 2 million housing units for poorer families will be built and the sun will provide the energy for hot water generation in 60 % of the houses.

The solar thermal manufacturers in India also benefit from a government that fully backs solar thermal energy. The Solar India Mission of November 2009 specified ambitious targets: 20 million m² of newly installed collector area by 2022. The first essential step towards the implementation of this plan was the start of a nationwide support programme, which subsidizes 30 % of the system costs – including the installation costs – and which covers private house building as well as commercial facilities. Another support measure is the accelerated write-off of 80 % of the costs for solar thermal projects. “The targets of the Solar India Mission are ambitious but achievable if further accompanying measures are taken”, commented Jaideep Malaviya, the President of the Solar Thermal Federation of India (STFI) at the international solar thermal energy conference “Solar Water Heating Systems: Global Perspectives” in New Delhi at the end

ISOL Index for major non-European solar thermal markets



ISOL Index for major European solar thermal markets

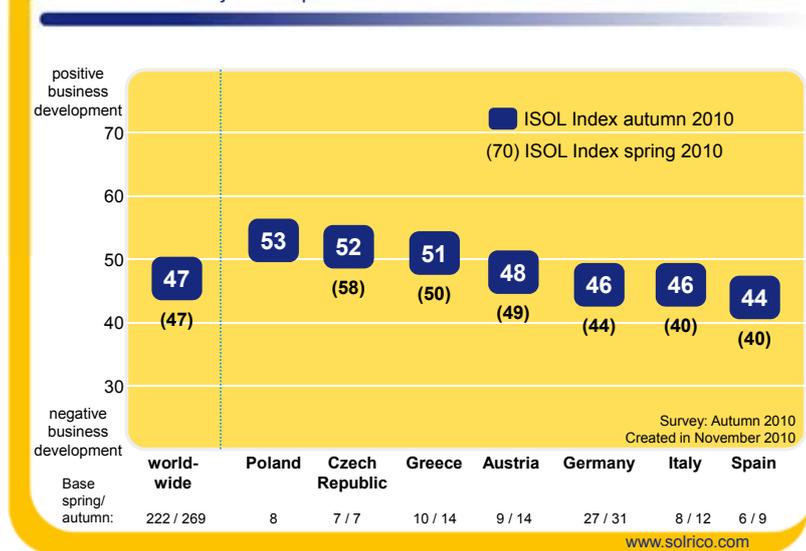


Fig. 2: ISOL Index autumn 2010 for selected countries outside (top) and within (bottom) Europe, for which more than 6 questionnaires were obtained from national component manufacturers and supply companies. For comparison, the index values from the spring 2010 survey are given as figures in brackets, with the exception of Poland, South Korea and Canada, since less than the minimum of six completed questionnaires were available from these three countries in the spring.

of October. Malaviya emphasized: “The government should make more of the Energy Conservation Act 2001, under which electricity utilities are required to trade 5 % of their electricity using renewable energy technologies and encourage demand-side management programmes.” Furthermore, the President called for further tax relief for the industry, pointing out that the companies were exempt from income tax, but sales tax still had to be paid on the solar thermal systems. The association suggests an exemption from income tax and value-added tax for ten years. Furthermore, low-interest credits should support the manufacturers in building up their production capacities and establishing offices in regions that still have a poor solar infrastructure.

Selected markets: current status and forecast

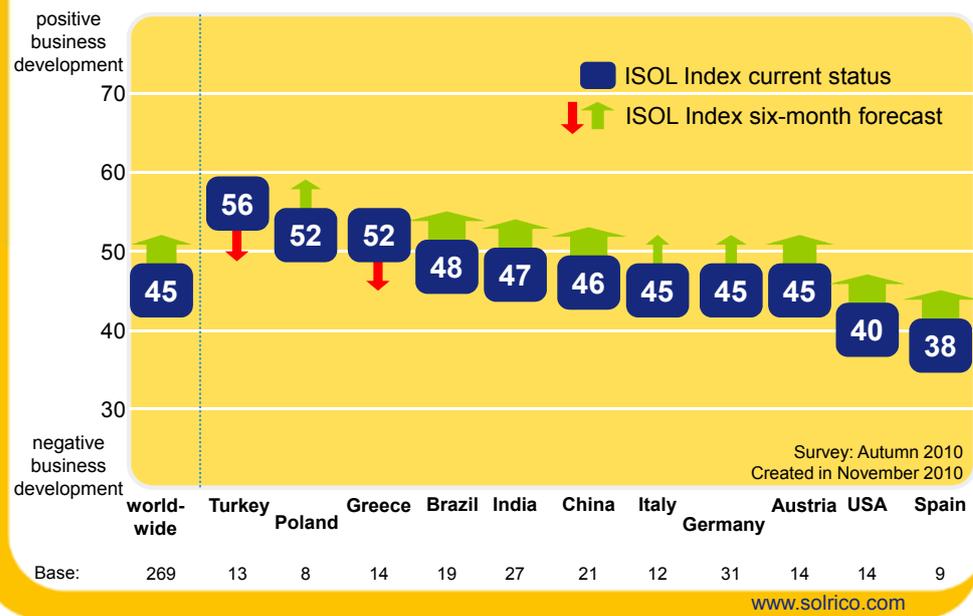


Fig. 3: The ISOL Index for the current business situation in the autumn of 2010 (based on the first three questions) is shown here for the countries in Fig. 2. Green arrows symbolize an upward trend in the business development, red arrows a downward trend (the thicker the arrows the stronger the trend). The base specifies the number of questionnaires that have been included in the corresponding ISOL country index.

Growing awareness in the USA

Apart from the winners on points, India and Brazil, the USA has also made a big, six-point leap upwards. This is especially encouraging because in the spring the United States was at the bottom of the league of country indices with 41 points. The market situation for the industry has thus noticeably improved here. The American manufacturers say that this is due to greater awareness among the end customers. "There is widening public acceptance of solar thermal for domestic hot water use, due to increased awareness", explained Rolf Christ, the General Manager of the collector manufacturer R & R Solar Supply in Hawaii, regarding the positive mood. And Tara Byrom, the Vice President of AET Alternate Energy Technologies in Florida, sees not only the high level of financial support, but also the growing awareness amongst consumers and solar professionals as the key factors that will give the solar thermal industry in the USA a boost next year. In this development, the commercial sector plays an important role, as Randy Hagen, the President of the collector manufacturer Solar Skies from Minnesota, put it: "We are seeing the majority of our collectors being utilized for commercial purposes".

Poorer business climate in Canada, China and the Czech Republic

At 47 points, the ISOL Index world average has not changed in the autumn compared to the spring, despite the good news from the countries mentioned above. So, in which countries was the industry less satisfied in the autumn survey than in the spring? The Czech Republic is one of them, with a decline of 6 points. The high expectations of positive busi-

ness development from the spring of 2010 onwards have obviously not been met, and the less optimistic new forecast resulted in the strong decline.

In **China**, too, the mood in the industry has declined: the ISOL autumn index is 4 points lower than the ISOL spring index. This can be attributed, on the one hand, to the fact that several companies that focus on export have clearly felt the decline in demand in some European countries. And on the other hand, some of the big producers judge the business situation as being worse than in April/May of 2010. This has also caused the considerable shifts in the rankings of the largest collector manufacturers (see S&WE 12/2010, page 58).

In the autumn survey, the ISOL Index has also been dragged down by the industry in **Canada**. Its average indicator is only 39, whereas the ISOL spring index was still 47 points. The reference value from the spring is not included in Fig. 2 because then only 5 companies took part in the survey. The minimum limit for the calculation of a country index is 6 completed questionnaires. The market setback in Canada is home-made and has nothing to do with the effects of the financial crisis. It came as a surprise to everyone when the government stopped accepting any further applications for the ecoENERGY Retrofit Homes programme for private housing construction in the spring of 2010 – one year earlier than expected. This was an especially big blow for the segment of solar water heating using water collectors. Here, the mood in the industry is gloomy. "In North-America in 2010 the overall trend is slightly downward. When the stimulus spending money is all used up, we expect that the trend may be sharply downward before levelling off in 2011", said Florin Plavosin, the Director of Applications Engineering of the Canadian collector manufacturer Enerworks.

If one calculates the average of the four Canadian air collector manufacturers, however, a totally different picture appears. Their ISOL autumn index is 55 points. There is no reference value for May 2010 because solrico included the air collector manufacturers for the first time in the autumn survey.

In the case of **South Korea**, the autumn survey was the first one with six participating companies, so that an index could be calculated: 39 points – which indicates that the business situation is really bleak. The sector has been adversely affected by the photovoltaics boom.

Small samples cause great index fluctuations

One has to add, however, that the samples from the last two countries mentioned, Canada and South Korea, were quite small. The country indices are based on only six completed questionnaires each – the minimum that is required in this survey for the calculation of an index. Under these conditions, a single untypical positive or negative outlier can shift the index value by one to two points. This also applies to Poland, the Czech Republic and Spain in Fig. 2. In order to check the relevance of the index, the market share of the participating companies in the total collector area produced in the country – and not imported into it – has also been considered. The index has only been included in Fig. 2 if the manufacturers from an individual country that filled in the questionnaire account for well over 50 % of the collector area produced nationally. China is an exception. The 21 companies participating in the index survey produced 9.2 million m² in 2009, which is a share of 22 % in the collector area of 42 million m² that was produced in total according to S&WE 7/2010 (page 88).

Constantly low spirits in Germany

In Germany, the situation is different: with 31 companies, the country index has a broad basis. Hence, it can hardly be due to just a few individual

Sales of heat generators in Germany

| Heat generator | Number / m ² | Difference in comparison with the same period of the previous year |
|-------------------------------------|-------------------------|--|
| Gas-fired/oil-fired heating systems | 385,000 | -2 % |
| Solid fuel boilers | 14,000 | -31 % |
| Heat pumps | 37,500 | -11 % |
| Total heat generator market | 436,500 | -4 % |
| Solar thermal systems | 936,000 | -26 % |

From January to September 2010, the Germans bought only slightly fewer heat generators than in the same period of the previous year, but the heat generators based on renewable energies suffered a fall in sales in the two-digit percentage range.

Source: BDH

Flexible Solutions for Solar Applications

[Insulated Hoses for Solar Systems]



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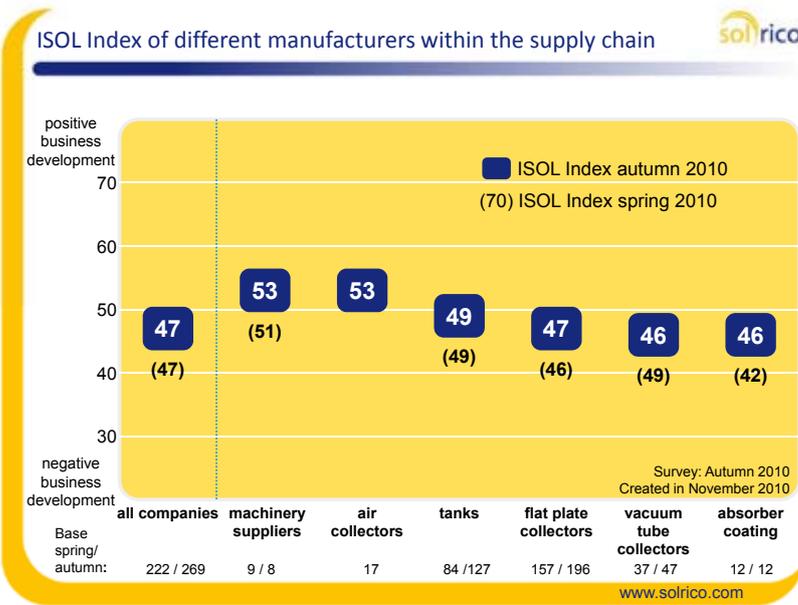


Fig. 4: ISOL Index autumn 2010 for various groups of manufacturers from the supply chain. Companies that produce, for example, storage tanks as well as flat plate collectors have been included multiple times in the calculation of the average. For comparison, the index values from the spring survey 2010 are given as figures in brackets. The base specifies the number of questionnaires that have been included in the respective index value.

outliers that the mood in the industry has slightly improved. The index of the current business situation has increased from 44 to 46 points. But this calculation also includes for the first time the manufacturers of components such as controllers, as well as the manufacturers of air collectors. If one calculates the average index only for the German manufacturers of flat plate and vacuum tube collectors, the result is 44 points, as in the spring. And the forecast for the next six months has not improved either.

This pessimistic mood is reflected in the market figures. For the second time in a row, the industry had

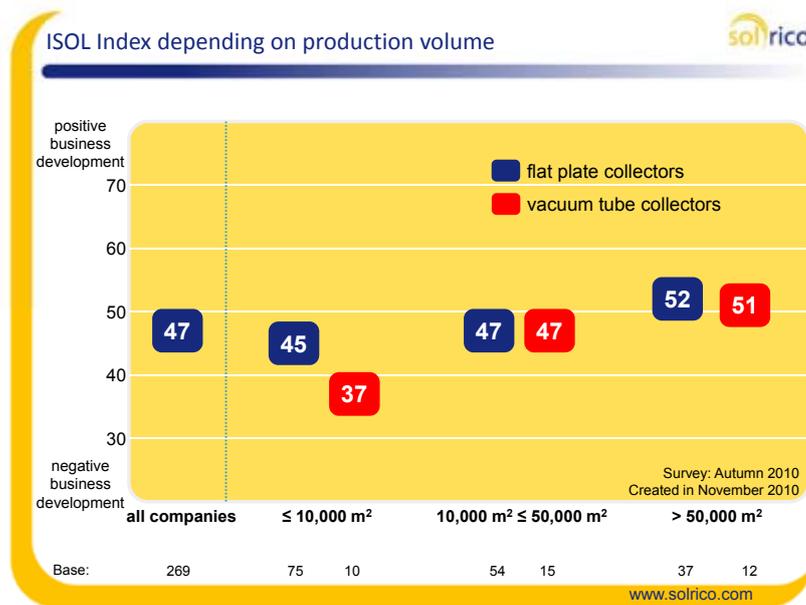


Fig. 5: ISOL autumn index for the manufacturers of flat plate and vacuum tube collectors as a function of the collector area produced in 2009. The base specifies the number of questionnaires that have been included in the corresponding index value.

to cope with a decline in demand, currently estimated at 26 %. According to Klaus Jesse, the President of the Association of the German House, Energy and Environmental Technology Industry (BDH), the September 2010 sales figures for heat generators in general are just 4 % below those of the previous year. This indicates that the modernization rate has not slowed down considerably, but the regenerative energy sources solar energy and biomass were used far less than in the year before (see table on page 47). According to industry representatives, the ending of the national market incentive programme MAP in April 2010 and the low energy prices are to blame for this second decline in a row. The German industry does not expect this situation to improve substantially in the next six months.

And what does the index tell us about the mood of the industry in the other key European markets? The manufacturers in **Italy** are substantially more satisfied than in the spring of 2010 (see fig. 2). At 46 points, the ISOL country index is just below the world average this time and is six points higher than in the spring. When this magazine went to press, the Italian solar thermal industry association Assolterm assumed that the 2009 market volume of 400,000 m² would just be reached again in 2010, and possibly even slightly exceeded.

At the beginning of December, the Italian government announced to extend the 55 % tax reduction for residential solar thermal systems for another year. Otherwise, the tax reduction would have expired at the end of 2010. However, the extension seems like a hollow victory, because the government also extended the period, in which 55 % of the investment costs can be deducted from the income tax, from 5 to 10 years. "Hence, under the new regulations, the annual savings will be rather small," Riccardo Battisti explains. According to the Policy Advisor of Assolterm, it is difficult to predict market development in 2011. Therefore the industry is still cautiously optimistic for the near future, as the thin green arrow in Fig. 3 indicates.

In **Spain**, the situation is totally different. In order to get a complete picture, one has to consider the results from Fig. 2 and Fig. 3 together. With 38 points, the industry gives an assessment of the current business situation that is just as poor as in the spring of 2010 (see Fig. 3). But in comparison to the spring, the forecast for the next six months has improved substantially (thick arrow), and this has raised the total index by a considerable 4 points (see Fig. 2). The Spanish association confirms that 2010 was not a good year for Spain. "We expect that the market declined by 12 percent in 2010 to about 350,000 m²", reports Pascual Polo, the Secretary General of the Spanish solar thermal industry association ASIT. At present, he sees no signs of a reversal of the trend in 2011.

The thin red arrows pointing downward in Fig. 3 for **Greece** and **Turkey** indicate that the companies fear a slight deterioration of the business situation in the next six months. In Greece, this continues a trend

that showed up already in the spring with a poor six month outlook. In Turkey, the positive expectations the manufacturers had in the spring have not been fulfilled; the country index has risen by just one point.

Larger production volume leads to a better business climate

In addition to the country indices, diagrams 4, 5 and 6 illustrate the results for different groups of companies. The ISOL indices for the various component manufacturers have changed slightly compared to the spring. The machine supplier index has risen by two points. But in this segment the participation in the survey was rather low and the results cover the entire spectrum from highly satisfied to highly unsatisfied. The coating companies show an upward trend with a plus of four points. This, however, is due to the extremely positive business situation of the Indian coating companies. If an average is taken only of the European coating companies, the ISOL Index is 40 points.

What is also striking is the three-point decline in the index for the 47 vacuum tube collector manufacturers. This is an effect of the bleak mood among the small European vacuum tube collector assemblers, which stands out in Fig. 5 with its extremely low value of 37 points. On the whole, Fig. 5 shows very clearly that larger collector manufacturers are considerably more satisfied than smaller ones. In the range from 10,000 m² upwards, there is no difference between the flat plate collectors and the vacuum tube collectors.

In Fig. 6, the trend "the bigger the more satisfied" is not as consistent. In the survey, the companies were asked to tick the turnover range that they reach with their solar thermal division. With a comparatively low index of 42, the ten companies with a turnover of between € 50 million and € 250 million are negative outliers. What is the reason for this? Unintentionally, a turnover line has been drawn here between Chinese and non-Chinese manufacturers. The six groups with sales exceeding € 250 million all come from the Middle Kingdom, whereas the sales range from € 50 million to € 250 million comprises compa-



Fig. 6: ISOL index for the current business situation (current status) as a function of the turnover that the respective company achieved in its solar thermal division. The question was: Please categorize your company according to the turnover in your solar thermal business. Green arrows symbolize an upward trend in the business development (the thicker the arrows the stronger the trend). The base specifies the number of questionnaires that have been included in the respective index value.

nies from various countries worldwide, some of which have been considerably affected by the poor market development in Germany and its neighbouring countries.

Outlook: two more surveys in 2011

In this second survey round, the ISOL Index has proved itself to be a suitable barometer of market development. For this year, solrico plans to conduct two surveys again, one in March/April 2011 and one in September/October 2011. Assisted by the specialists from the international market research group TNS, solrico will refine the evaluation methods of the ISOL Index and hopes for high industry participation once again next year. Any companies that are interested in their individual ISOL Index are invited to contact the agency solrico (epp@solrico.com).

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