

From service provider to partner: Optimal logistics opportunities in PV manufacturing

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ABSTRACT

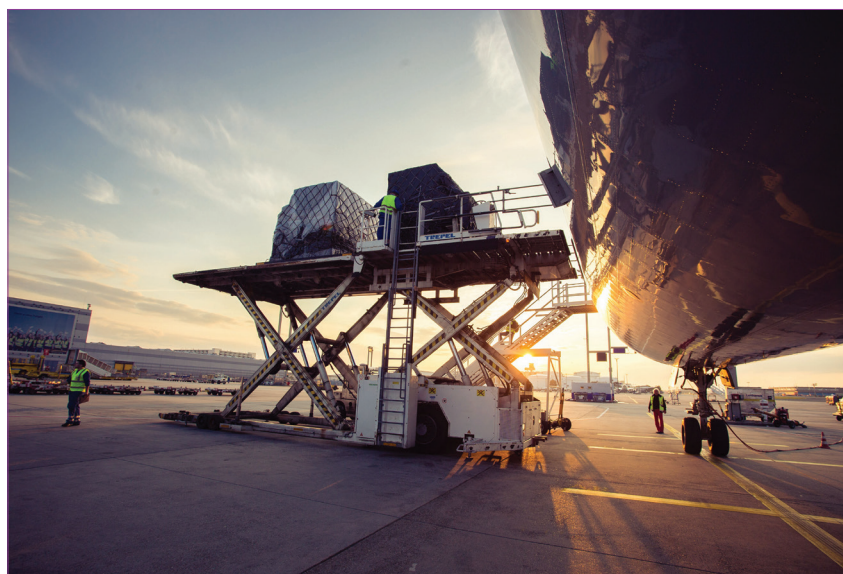
With global business an increasing reality for PV, the role of logistics is transforming from service provider to true partner. This article makes the case for integrated partnerships to move plant, products and business in the right direction, at the right time.

The availing of logistics opportunities means appreciating service providers as more than a replaceable link in the value-added chain, and recognizing them as partners in implementing company objectives. But how can advantages for the PV industry be generated via a logistics service provider, above and beyond pure transportation lines? In order to answer this question, it is helpful to look at the classic perception of the logistician and how this has developed in recent years.

For a long time, logisticians were seen purely as transporters. However the increasing globalization among client companies has spurred logistics firms to internationalize operations. At the same time, the hunger for transparency and information on the market and among market participants requires systems that greatly exceed classic transport services. Only those who recognized this trend early, considered their client requirements accordingly and created a global presence, mastered the transformation from traditional transporter to provider of intelligent logistics systems.

Logistics and the PV value chain

To illustrate this, let's take a look at the PV value-added chain. The first stage is choosing a location for suitable production plants, where cost is most often the decisive factor. However, purchasing parts from Asia or opening production plants beyond domestic borders necessitates increased coordination and steering. Here is where the support of a logistics company as a partner is an advantage. Network-planning tools for optimum planning in the logistics network with respect to the transition points, warehouse locations and transport routes can be made available to the client early on as



Logistics is an increasingly integral part of the PV value chain.

valuable decision-making supports. The customer's procurement and revenue information are processed within such planning tools. The resulting simulation of various goods-flow scenarios enables the creation of efficient solutions with respect to minimizing transport costs and lead-times, thus reducing cash flow within the entire delivery chain.

Should the customer decide to implement one of these scenarios, it is recommended to entrust the implementation to a dedicated logistics service provider as the 'architect of the value-added chain'. In so doing, many interfaces are reduced and unnecessary internal and external coordination and communication are minimized. To achieve this, it is imperative to choose a logistics partner with an international presence and its own branch network. Coupled with excellent information technology, the synergies within the value added chain might be exploited effectively.

Furthermore, comparatively large logistics service providers offer many

additional consulting services for customers' international development. Close cooperation with prestigious partners in the areas of tax and product testing is only one example of a most useful service, as new logistics scenarios usually directly affect these areas. One such example is the construction of production plants overseas. Close cooperation between logisticians and tax consultants can provide you with a solid evaluation from one source as to whether the tax relief in situ is of value when considering country-specific restrictions such as export regulations or logistics wage costs. Furthermore, logistics partners, with many years of local experience and contacts, often offer support in setting up companies abroad, whether in finding offices or first contacts to gather market data or making initial contact with the local industry.

Parallel to the increase in consulting requirements, the area of product testing at the supplier's production location has also shifted into greater

Fab &
Facilities

Materials

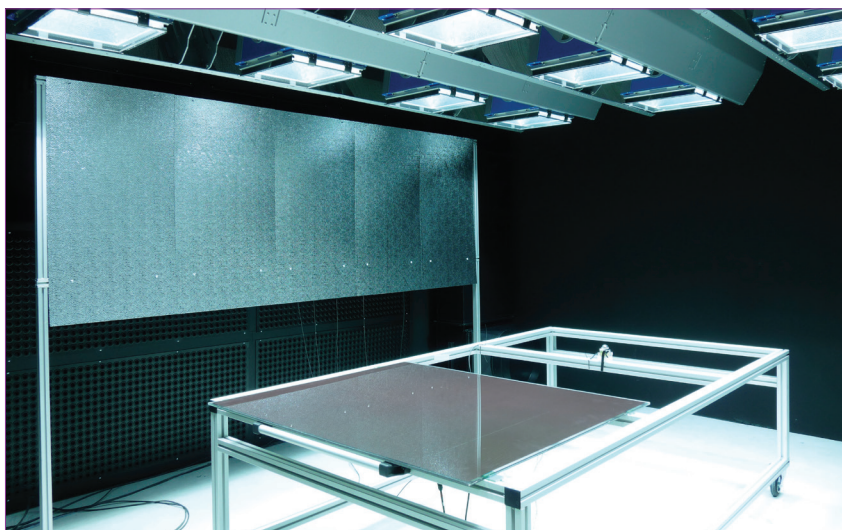
Cell
Processing

Thin
Film

PV
Modules

Market
Watch

Credit: Hellmann



Module testing is just one additional service a logistics provider can offer.

focus with the growth of globalization. Unnecessary transport costs can largely be avoided, if tests have already been carried out in the country of origin. Whole deliveries may be stopped prior to transportation, where discrepancies occur. The logistics service provider at the procurement location can offer so-called HUB inspections as a value-added service. Thus, modules may be flashed in the dispatch warehouse and wafers and ingots may be tested prior to transportation. Depending on the scope of the required tests, visual checks and simple functionality tests may be carried out by the service provider. Independent international test agencies, partners of the logistics provider, are available to carry out special technical tests. A medium-term homogenization of standards, according to the automobile industry's VDA regulations, in the photovoltaic sector, along the value-added chain, would accommodate the manufacturers and service providers.

The automobile industry and logistics sector have been cooperating successfully for a number of years in product testing by means of specifically defined process standards. The logistic partner's taking over production logistics directly "at the conveyor belt" has also been proven to make perfect sense and be very profitable for both sides. Transferring this success to the PV sector is surely a promising opportunity, which should be seriously considered.

Packaging and storage

Considering the importance of packaging in the transport chain in regards of quality and cost efficiency, dedicated packaging solutions are more and more required by the module manufacturers. This requires the

logistics provider to find simple and smart ways to increase the number of modules stored in the containers, trucks or warehouses. In addition, transport damage has to be prevented and the packaging has to be reusable and environmentally friendly. For this purpose, some logistics providers have already started to develop high-quality solutions.

Looking closely at the physical flow of goods in the value-added chain, there is great potential for cost reduction in procurement logistics. The automobile and electronic industries offer models for success here. Cost-efficient bundling and steering of procurement flows from Asia are incumbent upon the logistics provider. The customer merely gives instructions as to when certain parts are to arrive at the production point. It is then the task of intelligent logistics planning to bundle the various parts or groups of parts in such a manner as to reduce transport costs and deliver to deadline. In this model, the logistician is a dedicated partner responsible for the customer's procurement transportation, who communicates with the suppliers in situ regarding all logistics and quality issues.

This solution is supported by respective IT systems. Thus, supply-chain tools, connected to the customer's inventory management system via respective interfaces, enable access to purchase order data. Furthermore, suppliers and other partners may access the logistics provider's supply chain tool in order to inform the customer's employees of the production status, deadline alterations or quality issues in a timely fashion.

The use of such supply chain tools has the additional advantage that batch numbers may be tracked seamlessly. Thus product recall campaigns in the after sales area can be traced back as

far as the supplier. It also enables the logistics partner to carry out product testing at the customer's behest, exchanging any damaged parts with a central warehouse according to processes previously agreed upon with the PV customer.

The high-tech industry recognized this as an interesting growth sector years ago and began developing intelligent exchange and maintenance systems with the support of logistics partners. Such processes save costs and time, in turn contributing to the continued success of the sector.

A further important factor in trusting cooperation with a logistics partners is cargo visibility. Some of them already provide a full real-time visibility along the transport chain. Accessible via a web-based portals, these systems continuously transmit data pertaining to the transport route or changes to the container, such as shocks or unauthorized opening. Thus, damage or transport delays may immediately be checked and the customer informed. Also insurance fees can be reduced by using this kind of service.

Logistics service providers offer a variety of cooperation possibilities above and beyond transport. Apart from the examples mentioned, common interests in e-commerce are also conceivable. The logistics service provider is also readily available with these types of solutions, as today, it is essentially also an IT specialist committed to creating global transparency.

Like any real partnership, this one is based on mutual trust. In order to prepare the groundwork for and guarantee sustainable, solid growth in the PV industry for the future, it is worth rethinking the existing value-added chain with a logistician. This is true for companies that act globally and for those just starting out on that path.

About the author



Holger Meyer has been a member of the advisory board of SOLARUNITED since 2013 (formerly known as International Photovoltaic Equipment Association, IPVEA). As chairman of the body's supply chain strategy committee since 2014, he launched a new campaign, the Solar Supply Chain Forum. The task of this forum is to increase the knowhow within the solar industry along the entire supply chain to create a more cost-efficient as well as process-oriented global set-up to deliver solar projects. He is also global director of Hellmann Renewable Logistics.