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Technology transfer to China: Guidance for businesses

Technology transfer to China - why worry?

Many European companies are keen to enter the Chinese market and develop long-term partnerships in China. In order to achieve this, they are often willing to transfer their latest technology to Chinese subsidiaries of European firms and joint-venture partners. Such technology transfer may unwillingly result in a loss of competitiveness and market share in the mid to long term.

European companies should pay particular attention to the following common situations:

Compulsory joint ventures in exchange for market access

For access to the Chinese market in some designated sectors, such as car manufacturing or the manufacture of railway locomotives and rolling stock, foreign companies *must* enter into joint ventures with Chinese companies. Approval to form a joint venture or to operate may depend on the supply of specific technology, including future improvements of this technology. In some cases, the partner cannot be freely chosen and may be a competitor or concurrent Joint Venture partner of another competitor.

In other cases, the enlargement of a pre-existing investment may require the set-up of a local R&D Centre or other forms of transfer of know-how.

Public contracts/procurement

In order to take part in public tenders, foreign companies must ensure that part of their production is local (in some cases this can be up to 80%). Production by foreign subsidiaries in China is often not considered as local. Instead, foreign firms have to work with a Chinese general contractor, to which their technology has to be transferred in full.

In addition to specific rules about bidding requirements of technology transfer, China's market size is often used as a justification in the bidding process to give the contract to whichever company promises the greatest transfer of know-how.

Please note that the Chinese Government specifically selects certain industrial sectors in which technology transfer strategies, localisation and reduction of reliance on imports are to be implemented.

Design institutes

For many projects, in particular the manufacture of machinery and equipment, wide-ranging review of industrial drawings and designs by Chinese design institutes are mandatory. These drawings and know-how may later be used by other Chinese projects which wish to duplicate and use the design in other locations of China. In addition to transferring detailed technical documentation, foreign companies often have to train Chinese staff so that, in future, they can design the machinery/equipment independently.

Certification and licenses for market access

Many products have to be certified by a Chinese certification institution or are subject to a license by a Chinese ministry before they are allowed on the Chinese market. Some certification procedures require inspections of production plants in right holders' home countries. In some cases, the Chinese inspectors may come from competitor companies and they may ask technical questions which are not strictly necessary for certification.



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The challenge for European industry

For European industry, this situation presents a threat to its competitiveness as Europe's competitive advantage lies in its innovations, creativeness, brands and know-how. However, European firms are not used to operating in environments where IPR is not protected.

Key policies in China stress the need for technology transfer and innovation within China. Chinese companies urgently need to develop know-how and obtain access to new high-value markets to reach this objective. As a result former Chinese partners of European firms are already or will be soon operating as competitors within China and in other countries.

What can companies do to protect themselves?

Step 1: Analyse your strengths. What is it that makes your company competitive? What measures and IPRs are used or can be used to defend your competitiveness (e.g. trade secrets, patents, new applications for technology requiring know-how)? What can be transferred to third parties without losing competitiveness or market share in the mid to long term?

Step 2: Analyse your competitors and the Chinese market in which you wish to operate. Do you know who your competitors in China are? What is their strength? What is their strategy?

This analysis should also include your potential and existing partners in China: Are you aware of their specific objectives? Are they in a special situation which influences your cooperation? State Owned Enterprises may be obliged to abide by local and State industry policy which requires them to gain more know-how transfer and R&D investment rather than maximising short term profits.

Step 3: Design your own procedures when dealing with China. They need to be practical, but also indicate where you will draw the line. Define your limits and vigorously defend your position.

Below is a checklist of practical measures designed to help against unwanted loss of technology and know-how in China.

Compulsory joint ventures in exchange for market access

- ✓ Conducting due diligence of a potential Chinese partner, the location and local industrial policies and laws.
- ✓ In particular, examine the goals of a potential partner, the ownership (State involvement?) and the positioning of other companies in the same field. Attention must be paid to stock-registered company and subsidiaries engaging in similar fields of business.
- ✓ Make sure you have filed for appropriate IPR protection within China (patents, trademarks, utility models etc.) before entering into negotiations.
- ✓ Clearly define in writing with your chosen or designated partner the extent of technology transfer requested, including future improvements. Clearly define who may use technology transferred to the joint venture (excluding subsidiaries and subcontractors).
- ✓ Include clauses binding personnel of the Joint Venture partners: Non-compete clauses, confidentiality agreements, non-solicitation clauses.
- ✓ Clearly define ownership of rights of inventions and creations made in the joint venture and the rights of use in case of termination of the joint venture.



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- ✓ Verify whether future enlargement of investment will require additional technology transfer (e.g. local R&D Centre).
- ✓ Set up internal procedures to ensure that core technologies are adequately protected: Need to know basis for access to know-how, physical access restriction, internal training of expatriate staff and engineers prior to visiting or working in China.
- ✓ Monitor unusual frequent personnel exchanges.
- ✓ Aim for a majority holding by the European firm in any joint ventures (> 51%).
- ✓ Wherever possible, grant licenses to the joint venture instead of transferring rights.
- ✓ Where possible, work with full subsidiaries, convert joint ventures into wholly owned foreign enterprises, where achievable.
- ✓ If the Government demands a majority holding by the Chinese partner company actively use the associated benefits bestowed by the Government also for your own benefit (i.e. that of the European partner).

Public contracts

- ✓ Offer "mature" technologies.
- ✓ Make sure you have filed patents and trademarks for the technology concerned in all relevant markets, including export markets outside the EU.
- ✓ Make sure that there is clarity in your company about the extent to which your know-how can be passed on.
- ✓ License your technology, but keep key patents to yourself.
- ✓ Transfer or license technologies only for limited, named projects in China and for a limited period of time.
- ✓ Avoid outsourcing key maintenance and operational management.

Maintain a technological superiority compared to other suppliers, so that you have a better negotiating position.

Design institutes

Consider renting your own premises, where the employees of the institutes must remain. Have different design institutes dealing with different projects. Mark designs and drawings with an identifier as well as terms such as "Confidential" and "© by ..." on each page submitted.

Certification and licenses for market access

Compulsory certification

Do not answer automatically every question about technical product details relating to the firm's own know-how. Find out whether they are necessary to comply with the standard and, if necessary, negotiate with the certifying body.

Inspections of premises

As a rule, it is possible to have inspections for certification purposes carried out by a European or other trusted certifier, on behalf of the Chinese authorities. To this end, apply to the Chinese certification body in good time, in coordination with the desired supplier.

Use watermarking and invisible identifiers on your products to prove identical copies (e.g. adding non-necessary parts to a machine).



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General precautions against unwanted loss of technology and IPR

Protect products and technologies

Wherever possible you should design products for sourcing in China on a modular basis, so that different modules can be produced by different manufacturers, thus ensuring that each supplier obtains only partial knowledge.

Combine key functions in key components which are always developed and manufactured in-house and delivered to your own system integration department for installation.

Integration of modules in the overall system and testing of the overall system must take place in-house.

Communicate know-how, documents, customer relations, designs, strategies, update plans, etc. to Chinese suppliers strictly on a "need-to-know" basis, and only following signature of a confidentiality agreement.

Do not send drawings around, especially not in un-encoded mails. If they must be sent, clearly indicate "Confidential" on all documents and each page sent.

Protect parts given to suppliers against unauthorised copying by way of patents, trademarks, designs etc and pursue counterfeiters.

Carry out regular supplier audits with the emphasis on contractual obligations checking for IPR leakage and undeclared royalties.

IT: keep your data recording in Europe.

Create tiered access systems for Soft data & regularly monitor the source of external access attempts.

Agree to export restrictions and actively follow-up on any detected breaches.

Do your homework: Integrate employees

- Engineers like to communicate with each other. Raise their awareness of the importance of technology protection.
- Employees must be made aware that the unauthorised communication of technology hurts the company for which they work and thus jeopardises their own jobs.
- Ensure employment contracts contain non-compete clauses and confidentiality agreements as well as non-solicitation clauses that are also enforceable under Chinese law.
- Keep highly qualified Chinese employees working in subsidiaries of European firms and joint ventures through incentives such as pay, promotional opportunities, etc.
- If you use agents, commercial and sales partners, include safeguard clauses in the agency agreement, especially if you are not yourself present on the market. If necessary, provide training for your sales partner's staff.
- Screen visitors to R&D centres in Europe and ensure they are accompanied at all times.
- Restrict physical access to sensitive work sections.
- Do not take on every contract. Do not penalise the sales department if it turns down a contract for technology protection reasons after consultation with the legal department.
- Where possible have your own team on site, specialised in know-how protection and Chinese law.



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Use the system!

- Register your patents, trademarks, copyright and design not only in EU, but especially also in China!
- Use all legal possibilities: Formulate contracts unambiguously and include arbitration clauses with a neutral tribunal location.
- Ensure that transfers of know how are made on a clear legal basis for all parties involved, define precisely and in detail the object and recipient of the transfer, including formalities.
- In the event of a transfer of technology, make sure you conclude a non-disclosure agreement.
- Oblige your contractual partner to comply with all administrative rules for technology import and export.
- Make sure that payment of royalty fees is an enforceable obligation of the technology recipient (liquidated damages, no right to withhold licensing fees based on lack of compliance with administrative regulations under Chinese law).
- Include wherever possible suppliers and sub-licensees in contractual obligations.
- Specify in the contract that suppliers must not sell the products in question to third parties without authorisation.
- Limit, to the extent possible, the number of sublicenses given.
- Use the China IPR SME Helpdesk, your embassy's trade assistant and Delegation of the European Commission to convey concerns and problems. These institutions are available to assist you with any China related IPR issues you may face.

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