The core set of questions:

Level of analysis	*Information aspect*	*Items covering the aspect*
Firm level on product development	• Development of new or improved physical product within the last 3 years	*CIS Survey formulation:* A **technologically new product** is a product whose technological characteristics or intended uses differ significantly from those of previously produced products. Such <u>innovation</u> can involve ... A **technologically improved product** is an existing product whose performance has been significantly enhanced or upgraded. A simple product ... Q.: Between 1994-96, has your enterprise introduced onto the market any technologically new or improved products? *DISKO formulation:* In this survey **product development** means the development of a tangible product which in its design, its construction, its productive capacity or in any other way is new for the company. We are **not** thinking of small modifications which only affect the appearance of the product. **Nor** are we thinking about cases where the company's products are adapted to each individual customer as a matter of routine. **Nor** does the survey cover development of **new processes** in the company's production, such as introducing machinery with new technology or a new organisation of the production process. Q.: Has your company - alone or in conjunction with others - developed one or more new products within the last 3 years?

Level of analysis	Information aspect	Items covering the aspect
	• Development of new service, related to the physical products, conditional on new physical product	We now move on from development of tangible products. When an industrial company sells a product, it often also supplies the customer with a range of more **intangible services**, such as free service checks, user training and so on. Q.: Within the last 3 years has your company - alone or in conjunction with others - developed one or more new services which are supplied in connection with your products?
	• Development of new or improved process (*optional*)	(CIS formulation) Between 1994-1996 has your enterprise introduced any technologically new or improved processes?
		Within the last 3 years has your company - alone or in conjunction with others - developed one or more new or improved processes ? If yes, who developed these processes ? 1. Mainly other enterprises or institutes 2. Your enterprise and other enterprises or institutes 3. Mainly your enterprise
Firm level on cooperation	• collaborative links (yes/no) ⇒ list of collaborators from the DISKO survey ⇒ distinction between foreign and domestic and public/private customers	During development has your company collaborated with any [of your] _____ *List of partners:* 1. customers 2. suppliers of materials or components 3. suppliers of equipment 4. competitors 5. subsidiaries, parent companies or similar 6. private technical consultancy firms or technical laboratories 7. marketing, management, legal or other private consultants 8. technical institutes and laboratories 9. universities or sector research institutes 10. other companies or institutions, note: _____ For each item in the list: domestic, foreign, or both. Additionally, in case of customers: both government and private customers.

Level of analysis	Information aspect	Items covering the aspect
	• importance of the links, relative to !lquote market success' ⇒ rating on a 4-point importance scale of the indicated collaborators	We now want to know something about the importance of the single partners. You mentioned that you have had cooperation with a number of partners. I am now going to read all of your partners one at a time, and for each of them I ask for your opinion of their overall importance for your company's ability to develop new products in the long run. Please use the response categories minor importance, some importance, great importance, and decisive importance. How do you rate the importance of (List of partners mentioned) for your company's ability to develop new products? 1. minor importance 2. some importance 3. great importance 4. decisive importance 5. DK

Level of analysis	Information aspect	Items covering the aspect
Project level on cooperation	• collaborative links without reference to any specific project (*optional*)	I would like to have your evaluation to what extent your company collaborates with other partners outside the company in the development of new products. Imagine, say 10 typical project for the development of new products. How many, then, would include cooperation with other partners? ***Alternatively (used in DISKO II) :*** How many new products have your company developed and introduced onto the market? (Number:) How many of the cases involved collaboration with other partners outside the company? (Number:)
	• selection of an important project ⇒ free response ⇒ short description ⇒ closure on the aspects of importance (semi- open)	In your opinion which of the product development projects on which your company has collaborated was of greatest importance for your company? Could you give me a brief description of the project? Could you describe to me what was new about the product? Which aspects of the project was that made you choose that particular project as an important one?
	• background information on the important project ⇒ size (e.g. man-years) ⇒ duration (in months)	How many man-years do you estimate your company has invested in the project? What was the duration of the project in months from start to finish? Is the product still under development?
	• collaborative links with specific reference to the important project (yes/no)	Which domestic collaboration partners were involved in this development project? Which foreign collaboration partners were involved in this development project?

Level of analysis	Information aspect	Items covering the aspect

	• importance of the links, relative to the internal goals of the important project
	   ⇒ rating on a 4-point importance scale of the indicated collaborators
	   ⇒ first time or recurrent partner
	   ⇒ length of collaboration
		I am now going to read aloud all the partners in the project, one at a time. For each of them, I want your opinion on the specific importance of the partner for the fulfilment of the project in accordance with the goals put up by your company for project.
		
		Again, please use the answer categories minor importance, some importance, great importance, and decisive importance.
		
		How do you rate the importance of
		    ($)
		for the fulfilment of the project?
		1. minor importance
		2. some importance
		3. great importance
		4. decisive importance
		5. DK
		
		Has your company collaborated previously with this partner?
		         ($)
		
		If yes, for how many years?

	• motivation (expectations) to engage in collaboration, based on the list of collaborators in the important project (*optional*, selective list of collaborators)	Which specific competencies did you expect ($) to bring to the project? (Note answer)
	• evaluation of the contributions of each of the selected collaborators (*optional*)	Would you say that the performance of ($) in relation to the project fulfilled your expectations ?

	• !!evaluation of the project
	   ⇒ stayed within budget and time limits
	   ⇒ led to successful introduction onto the market
		Did the project stay with the time schedule?
		
		Did the project stay within budget limits?
		
		Has the project lead to a successful market introduction of a new product?

Modules	Purpose	Sponsor
!!Development of trust	To establish the importance of developing trust in collaborations. This module can be designed to be included at the firm level, the project level or the individual links level.	Edward Lorenz, France DISKO II
Prototyping	To examine the use of prototyping during the product development process. This module is only meaningful at the project level.	DISKO I and II
Environmental issues	To examine the extent and content of collaboration based on specific environmental expertise in relation to new product development. This module can be posed at the firm level and the project level.	DISKO II
Most important partner	To give more detailed information on most important collaborator, the nature of the exchange, the formalisation, first time or recurrent partner, etc.	Luis Sanz-Menendez, Spain
Management of the collaboration	How the selection of the various partners are pursued, the importance of personal acquaintance, the formalities, the juridical aspects, etc.	Luis Sanz-Menendez, Spain Bianca Poti, Italy
Ways of communication	To evaluate the need for different types of information during the development process and evaluate the importance for various (electronic) means of fulfilling these needs. This module can be posed at the firm level and at the project level.	Jacky M. Senker, UK DISKO II

Prototyping (This module is only meaningful at the project level.)

Purpose	Information requirement	Questions
To examine the use of prototyping during the product development process.	The use of prototypes	Were prototypes used during the actual development work while collaborating with one or more of the partners? If "yes", note which.
	Movement of prototypes between collaborators	While collaborating with one or more of the partners that you have mentioned, did it occur that a prototype was moved from your company to the collaborator or *vice versa*?
	Exchange of personnel from company to collaborator?	During the course of the collaboration did one or more of *your* employees spend some time on the premises of one or more of the *collaboration partners* and work in their company?
	Duration of exchange?	What length of time did this involve in total, in terms of number of working days? (INT.: If several employees and/or several partners were involved, state no. of persons x working days.)
	Exchange of personnel from collaborator to company?	Did any of *employees of a collaborating* firm spend some time at the premises of *your* company?
	Duration of exchange?	What length of time did this involve in total, in terms of number of working days? (INT.: If several employees and/or several partners were involved, state no. of persons x working days.)
	Pattern of exchanges of prototypes	Which collaborators had at one time or another the prototype in their possession? ( )
	First n exchanges	What terms would you use to describe the phase of the new product development process at the time of the first exchange?
	Moved from	Which collaborator ?
	Moved to	Which collaborator received the prototype?
	Purpose of the prototype at this stage	