

Some suggestions about Transfer of Technology with different readiness and different level of collaboration with the industry

S. No.		(A) Technologies with high readiness requiring transfer of reagents/clones and document, and requiring adoption and reformatting, testing for commercialization after due approvals	(B) Requiring further co-research and development work (Project funded by a government-funding agency in collaboration with the industry)	(C) Initiation or research on an idea or preliminary leads generated by the University teacher, and requiring intellectual and experimental support from the industry	(D) Working on a project (short/long) brought to the University by an Industry for a specific development
1.	Technology readiness Level (TRL, scale of 1-9) Ref: BIRAC, see footnote	4 or higher With higher TRL there may be better uptake by the industry and thus the return	2-3	1-2	This can vary
2.	Type of licencing (Exclusive/Non Exclusive)	Usually, Industry prefers exclusive licence at this level of TRL, but GOI does not allow it except in exceptional cases. Industry may not take interest in developing aggressively if licence is not given exclusively. Solution- Exclusivity may be allowed for a shorter period say 12-18 months. In cases of non-exclusivity, a limit of 3-5 Industries may be fixed wherein after the first, there is a loading of	Since this requires collaborative research and development, this will have to be an exclusive licence, but exclusively can be for a shorter period say 12-18 months from the date the development has matured. The intentional delay can be discouraged by levying annual payment to the University as the licensing fee/as a part of the Upfront	Since, this requires fully collaborative research and development, this will have to be exclusive licence, but exclusively for a shorter period say 12-18 months from the date the development has matured. The intentional delay can be discouraged by levying annual payment to the University as the co-working fee.	NO licence from the University. But depending upon the intellectual input documented by the Teacher, there may be a claim for IP, Consultancy, cost of reagents/lab resources/salary of manpower/overheads and the payments as royalty can be claimed if the industry markets the product or transfer the matured technology to other as a individual technology or as a part of sale out of the Industry to a bigger one. Therefore, a claim on IP is very important.

		25% on transfer cost for each new Industry, meaning thereby the 5 th Industry will get at double the cost of the first one.	payment or even over and above the initial signing amount.		
3.	Assessment of Upfront Payment amount including Royalties (transfer cost)	The amount will depend on the market value of the product and assessing the value of intellectual effort by the University teacher group. This can be in the range of 1-5% of the total value depending upon the intellectual and financial contribution of the industry. For example, if a product has a market for 100 crores during a span of 10 years, the upfront payment can be 1-5 crore and the same can be divided in the upfront and royalty where upfront could be 30% of the amount paid in three instalments till the product is brought to the market. The payment milestones can vary including one on signing the agreement, another within 12 months or after getting some approval and the third on the supply of the first product in the market. For this essentially, the	Since this requires collaborative research and development, this will have to be decided on a case-to-case basis keeping the above point in the view to have some signing fee with some annual payment decided based on the value of the product and contribution of the partners. Proposal-specific committee can take decisions about this aspect.	Since this requires collaborative research and development, this will have to be decided on a case-to-case basis keeping the above point in the view to have some signing fee with some annual payment to support the lab work at the University including consultancy payment for intellectual contribution of the teacher and associates. Proposal-specific committee can take decisions about this aspect.	

		process in this category is completed in 18 months.			
4.	Royalty	It is considered on sale. Since, the products are supplied on heavy discount, it is difficult to assess the sales. Therefore, the royalty may be on the MRP even if it is low. Suggestion:3% on total MRP x units sold or 5 % on actual sale	This will have to take the above points into consideration and the proposal-specific committee can take decisions about this aspect.	This will have to take the above points into consideration (C.3)	This will depend on the contribution of the Teacher and other collaborators. Proposal-specific committee can take decisions about this aspect.
5.	Duration of the agreement	7-10 years from the date of initial signing with possibility to renew with new agreement and new conditions also with possibility to give it to someone else as such or in improved version without taking credit for the initial Industry contribution in development.	Proposal-specific committee can take decisions about this aspect.	Proposal-specific committee can take decisions about this aspect.	Will be short
6.	Sharing of IP with Industry	NO sharing with the industry. The Cost of Patent prosecution and maintenance should be borne by the industry, if exclusive or be built in the upfront payment. Therefore, technology should be transferred after filing the Patent application in India. If Industry contribution	This will depend on the contribution of the industry and other collaborators. Proposal-specific committee can take decisions about this aspect.	This will depend on the contribution of the industry and other collaborators. Proposal-specific committee can take decisions about this aspect.	This will depend on the contribution of the Teacher and other collaborators. Proposal-specific committee can take decisions about this aspect.

		results in additional IP-worthy outcome, IP can be shared between the University and Industry for that lead only.			
7.	Financial support during further development	Required amount may be sought from the taker Industry, but without any IP right to them. Alternatively, if the funds requirement is very large, after signing MoA and receiving upfront payments, a collaborative development project can be submitted to an external funding agency to support.	This will require funds from the taker Industry and also from an external source and requirement may be larger than the previous category. in our projects which are also supported by a Government funding agency, industry has been investing 20-25% of the recurring grant (in the form of funds to the university for use in the project or by providing Manpower, in addition to that from the funding agency) with no right on IPR, but first right-of-refusal upon the maturation of the technology. Also, the contribution of the Industry to the University is deducted from the Upfront payment. For this, the negotiations are held for upfront payment, and royalties with the	This will require funds from the collaboration Industry and also from an external source and requirement may be larger than the previous categories. Also consider additional point described in B.7	This work has to be supported exclusively by the industry. For the calculation of the total cost of the project, we should keep in view the cost of using infrastructure of the PI's laboratory/department/centre/University and overheads, and the cost of recurring expenditure (Manpower, consumables, contingency, travel etc.). For this, there is a document that can be referred. . The IPR should be shared with industry who should bear the Patent filing and maintenance cost. If the same industry uses the knowledge, there should be an annual payment to the University to be shared as per the rules of the royalty sharing. If the collaborating industry sells or licenses the technology to any other industry, University should get due benefit.

			collaborating industry for exclusive transfer. This does not mean that the technology cannot be given to any other industry. The technology can be transferred to any other industry after lock-in period of 12 months at the a cost with additional ~ 25% plus the investment by the initial industry added to the upfront fee.		
8.	Product				
9.	Market for the final product (Rs./year)				
10.	Lifespan of the final product				
	Process	<ul style="list-style-type: none"> • Out of four possibilities, only “Category A” may require an advertisement to give equal opportunity to a partnering Industry. The gross parameters for selection of the Industry partner can be drafted by the central committee. However, the proposal Specific Committee can go into the details without making it complicated as this is not buying a product but to find the right partner. • Categories B, C and D are for Industry collaborations and therefore cannot be advertised. The Pi/Co-PI (Inventor/Co-Inventors) should be able to place the information before the Proposal specific committee to take it forward. 			

The other type of interaction with the industry could be of the following types:

Projects providing services to Industry: This can be calculated as per the existing guidelines, but rates of compensation can be revised. There are previous examples of such services offered by VKC laboratory. In those, there is no IP to the University, but individual lab personnel can get compensation. (Guidelines for intellectual property protection, its licensing and collaborative research with Industry participation). These guidelines are complex and need to be written in simplified language. Our group has some projects like this. But these were to support the technology transferred to the industry and was related to technology adaptation and clone expansion.

Projects requiring only consultancy services to Industry:

Description of Technology Readiness Level (TRL) (https://www.birac.nic.in/desc_new.php?id=443). The TRL numbers 5/3/2 in the table above are notional as this will also depend upon the final product.