A PRACTICAL APPROACH TO INDUSTRY - UNIVERSITY LINKAGE

(The opinion expressed by the author is his private opinion and does not reflect the universities position in any manner)

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It has been long understated that the core of any industrial research in any country starts from the so called " Industry – University linkage". Industries in the western world have recognized that in an atmosphere of intense competition where only the best can survive innovation has to be fostered . The linkage fostered innovation is not to function as a mere appendage but at the heart of industrial growth. Even the esoteric space rocket technology was the product not only of NASA but Caltech and MIT among other venerable private institutions. Indeed the very essence of super power status of most countries in the western world is due to this linkage.

Unfortunately in India the HR ministry has neither seen this commercial interface nor has any clue as to its gravity and how it has to be triggered. At best one could understand is that the current position is of maintaining the status quo of relative stupor in any type of industrial applied research. On the other hand the millions of middle class families can only think of getting their wards some kind of educational degree professional or otherwise with an outcome of jobbery at the end if the tunnel. Their educational investment in this recessionary times is also high in terms of middle class income levels.

Jobs have to be relevant to the "State of the Art" industry. This can happen only if the educational system truly reflects the demand. How best is a notion that can be filled up by actual interaction with the industry. Unfortunately, in a sub-continent of a billion consumers and demand exceeding supply, advancement is side lined for greater production. This is also exacerbated by local protectionist tendencies ably lobbied with the central and state governments in the name of domestic industry. Competition is dispensed with and with it the baby with the bath water – novelty. It is therefore axiomatic that initiative is not going to be forthcoming in largesse's to the university from the local industry for pure and fundamental research or even applied research to boot.

As a consequence this pubic private model is floated as a self-generating self-sustaining model which may find support from the international commercial circles who would among other things like to market their wares into this burgeoning market. The model is simple for one it dispenses with pure research. In this regard, at any rate- not much is really happening in the aegis of CSIR from our public institutions. At least we do not hear" Great leap forward" in any direction of science and technology in the last century or in the present one, coming from Indian research organizations both public and private.

To add insult to injury our local industry and bureaucracy has been fighting tooth and nail against an IPR regime- which has been giving credence worldwide to original work both in the art and the sciences. Why do we blame student for copying and cheating in exams when our Institutions of research subtly but albeit do the same. Perhaps the opposition is to create a scenario for continued nonperformance in this sub-continent. At any we do not hear of the HRD ministry smacking a compulsory IP audit for all institutions of higher learning and research institutions both at the government level and at the University level public and private. Why has this is not been done already is a million dollar question - cover up or perhaps satisfying the powers that be? At any rate certainly brings down the intellectual probity of an entire nation in the comity of nations.

In view of such an apathy the University self-generated industry as a model in industrial parks as an extension of University is mooted..

The fig 1 explains the course of an university triggered Public private commercial outfits that can bring needed capital for original work at universities. The concept is simple and contains the following elements:

1) A think tank at the university level consisting of technical, legal and managerial ombudsman.
2) The targets of commercialization are known technologies sourced from existing patents (Patent M ining) as well as industrial need.
3) An industrial park given in gratis to the universities to effect and reduce the above commercialization into practice.
4) An Public – private initiative to carry forward the enterprise to its production phase in the said industrial park

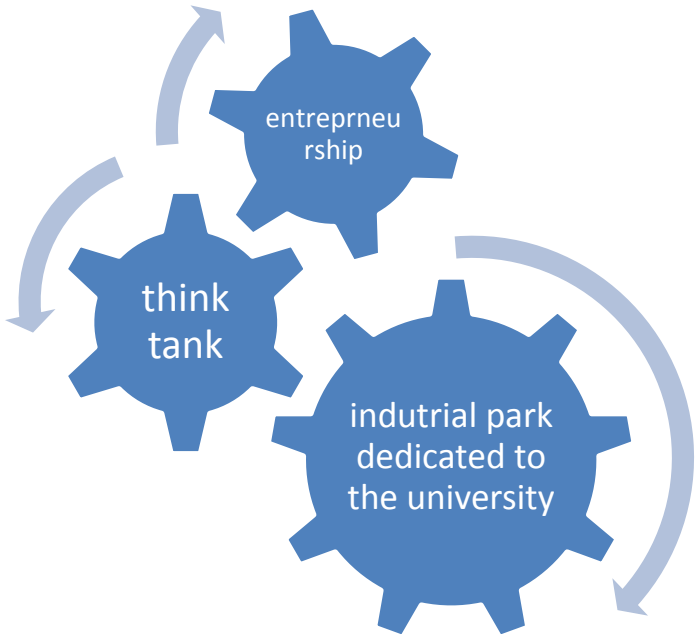
The above comes as an initiative based on feasibility studies by relevant think tank in the particular field. The risk of enterprise will be borne by the public – private set up or where permitted event partnership companies. The universities will be gainers in terms of spawning industrially relevant technologies and further there will be a synergistic effect on taught programs at school to be relevant to that need. Where relevant such projects may become the grounds for employment of university students1

BASIC ASSUMPSITS ON WHICH UNIVERSITY RESEARCH IS TO TAKE PLACE:

1. Applied rather than pure research centric
2. Domain Centered

3. Market oriented
4. Public – Private model of financing projects
5. Feasibility based on sustainability of operations

Figure 1



The members of the think tank are the base for triggering the applied research based investigations. The constituents of the think tank are to operate on turnkey basis from the drawing of relevant and sustainable projects based on feasibility studies and their conversions to viable projects at the industrial park specially designated to the university. The ombudsman will also include bureaucracy to convert the entire edifice to practical reality through able lobbying with the "Powers that be".

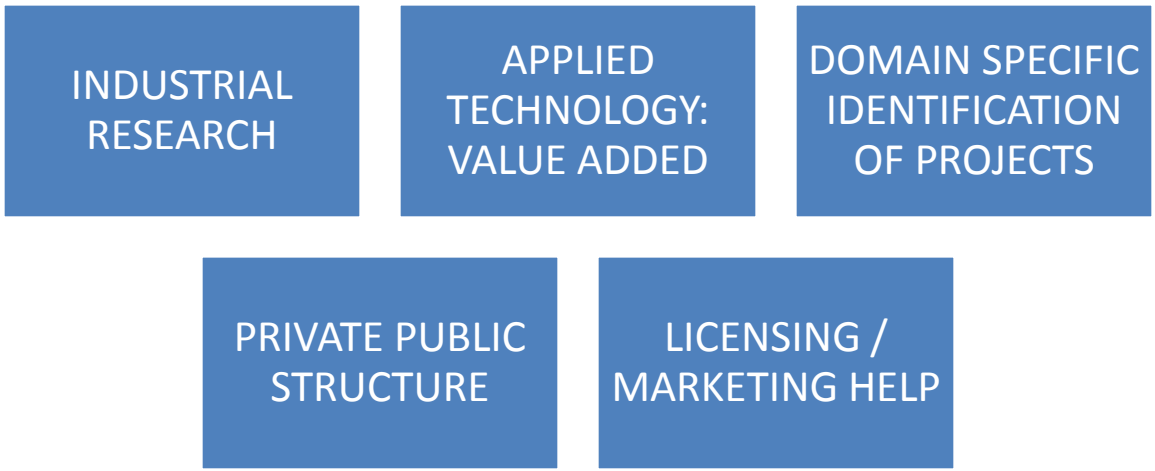
FIGURE 2

THINK TANK MEMBERS

Fig ure 3 illustrates that the flow of the entire effort is to be a model for entrepreneurship on projects spawned by the university system. The projects can range from applied industrial research or through the aegis of investigations through patent mining or through knowledge of domain area expertise. Where ever possible value addition may be made on domain specific identification of projects through a public- private institution financing and suitable licensing in and out through the University aegis. This will include the marketing arrangement. .

FIGURE 3

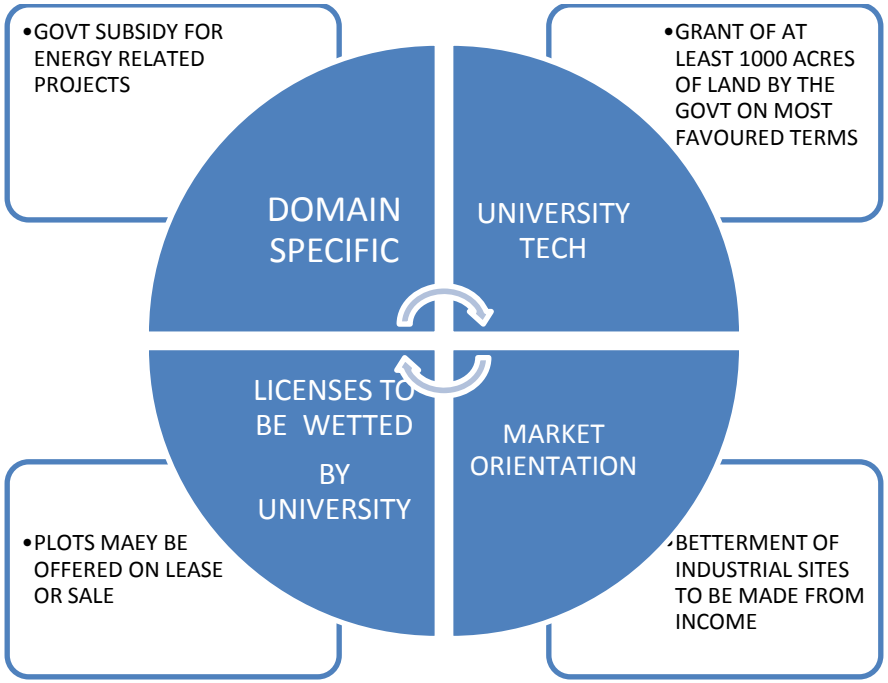
ENTREPRENEURSHIP



The University dedicated industrial park in domain centered functions can be a central focus for industry starved states specially Uttarak hand. Also the focus of applied research specially on energy domains can extend from Nonrenewable to Renewable including the Health, Safety and Environment concerns which go with some of the component sources of the energy industry. In the case of Nuclear Aviation and Missile technologies some of the security measures may also be adapted in the industrial park, as in other countries which do applied research in sensitive areas such as defense. The initial grant could be a minimum of 1000 Acres or more which can target such focused projects. The industrial belt can also spawn employment either contractual or full time in the said area. The initial betterment of land may be financed by the government and the land rates made available at reduced or marginal values to create the industrial develpment scenario within the state.

FIGURE 4

UNIVERSITY DEDICATED INDUSTRIAL PARK



The above process is schematically represented in the below fig 5

FIGURE 5: THE PROCESS OF UNIVERSITY INITIATED INDUSTRIAL ACTIVITY