be the prime contractor and no move seems to have been made to license the consortia of industrial companies to build the design. The AEA has already submitted tenders in Finland, and has signed a contract for the supply of information to Japan; it seems determined to keep the SGHWR to itself. Meanwhile, the Minister of Technology is still wondering what to do with the nuclear power industry in Britain. He should think quickly, before the authority answers his questions for him.

Experimental Factories

from Angela Croome

A SECOND stage in the Akademgorodok (science city) experiment in Siberia is now actively under way. This involves the development of areas outside the main centre, containing experimental factories, design offices and special training facilities to speed the transition from good idea to industrial production. The scheme was put forward by the Siberian Academy of Sciences led by Academician Mikhail Lavrentiev in 1966 and adopted by the Soviet Government last year. The site chosen is about 2·5 miles from Akademgorodok on the banks of the Ob Sea and is to be called Pravye Chomy. The population will be limited to 15,000—much less than the total of 40,000 which Akademgorodok attained last year, its tenth anniversary.

The object is to improve the ways in which basic research is turned into industrial practice. The ideas, which will come from the research institutes of Akademgorodok, will pass to design offices at Pravye Chomy linked with the appropriate institute. Designs produced here will then be developed at centres on the spot which are described as "something between laboratories and factories". In these centres development will go at least as far as the production of prototypes, still under the guidance of the original inventor. Academician Lavrentiev commented, "We have recently come to the conclusion that the traditional 'conveyor belt'—academic institute/design office/industry—by which scientific discoveries are brought into practical use in industry, often works too slowly. . . . The Siberian Design Office experiment, whereby valuable scientific ideas are brought to the point of practical industrial use under the direct control of the inventors themselves, has proved highly successful". The Institute of Hydrodynamics at Akademgorodok has pioneered the procedure. The hydraulic impact forging techniques introduced by the institute are estimated to hav esaved the Soviet oxygen equipment industry alone 100 million roubles a year. An interesting feature of the Pravye Chomy scheme is that most of the capital cost is being found by industry.

The scheme will be mostly operated by young people. This is seen as a unique opportunity to provide, after the 3–4 year development phase, not only effective designs but the people to put them to work on the shop floor. Linked to this is the introduction of a new type of degree to be given by Novosibirsk Technical College, shortly to be opened. This qualification will be intermediate between that of the full engineer and skilled factory hand. Novosibirsk University is adding an engineering faculty soon in support of the new technological developments. A large workshop block with a floor area of 1,500 square metres is nearly ready at Pravye Chomy.

French Scientists on Strike

from our Paris Correspondent

IF French politicians of all political parties rarely show an active and informed interest in research—election speeches contain polite but woolly references to the "progress of science" but are singularly lacking in precise policies, and the discussion over finance each year is carried on before a virtually empty House—scientists themselves seem to have long ago made up their minds to direct the attention of politicians and the Government to their future.

This is why an order to strike was given by two trade unions two weeks ago at the Centre for Nuclear Research at Saclay. The immediate aim was to protest against a plan for professional classification which would harm certain categories of personnel. In the longer term the question was that of fixing a date for a possible reorganization of the Atomic Energy Commission (the CEA). Is the CEA, which provides work for approximately 30,000 people and which, because of the size of its budget, is in French science a considerable *force de frappe*, threatened with disruption? In political as in research circles, many people would very much like to reduce this tremendous power by giving to various other organizations functions which originally were mistakenly attributed to the CEA for reasons which are no longer valid. The CEA, even under this system, would remain, if only for military reasons, an institution of considerable importance. Inevitably, however, a certain amount of reorganization would take place. At all events, it is doubtful whether strike action would weigh very heavily on Government decisions which will probably be taken at the highest level and in accordance with well known political and military strategy.

Despite this, another strike took place on February 20 and 21, organized this time on a national scale by the three research workers' unions. It seems that the strike was 70–80 per cent effective. It is the mode of operation of the National Centre for Scientific Research or CNRS (6,000 research workers, 8,500 technicians) which is the issue at stake, or, rather, the method of professional promotion agreed on by the responsible ministry, the Education Ministry. Having decided to push the research workers into the industrial sector, by force if necessary, the minister, M Alain Peyrefitte, has created a bottle-neck between the first grade of the CNRS hierarchy, that of research assistant, and the second grade, that of research organizer. This year, seventy-nine assistants, all holders of doctorates and having the recommendation of the commissions concerned, have not been able to enjoy the promotion they were expecting, which is virtually forcing them to leave the CNRS once and for all.

Those who defend this measure argue that the almost automatic passing from one grade to another leads to "functionalization" of research and threatens to make the CNRS, which ought to be a dynamic body, stagnate. Their opponents, while agreeing that this argument does have some justification, deplore the improvised nature of this new policy and see in it a threat to basic research. The desire which the minister professes for "irrigating" industry is for them based on a dangerous illusion: French business men who are extremely timid in their attitude towards research are certainly disinclined to pour capital investment into this field