



ВЫСШАЯ ШКОЛА ЭКОНОМИКИ
НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ



The features of international projects in the sphere of the high-tech and science-intensive industry

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The State Foreign Trade Association "Avtopromimport" was established in 1966 as a part of USSR Ministry of Foreign Trade. "Avtopromimport" is one of the world leaders in developing of new technologies for engineering industry, systems of electronics, chemical industry and energy production for more than 45 years.



Over the years Association has provided equipment deliveries and putting into operation AvtoVAZ, KAMAZ, Atom mash, implemented new technology for Thyssenkrupp, Mannesmann, Siemens, Volkswagen, Porsche and other companies. Nowadays "Avtopromimport" collaborates with more than 1400 Companies of 52 countries all over the world while maintaining the priority given to projects in the interests of the domestic companies.





Object Mission

Implementation (support) of projects aimed at the development of new technologies.





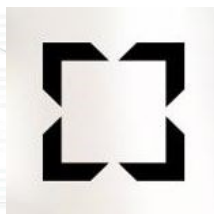
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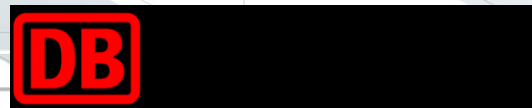
Our clients:



Министерство
экономического
развития РФ



РОСНЕФТЬ



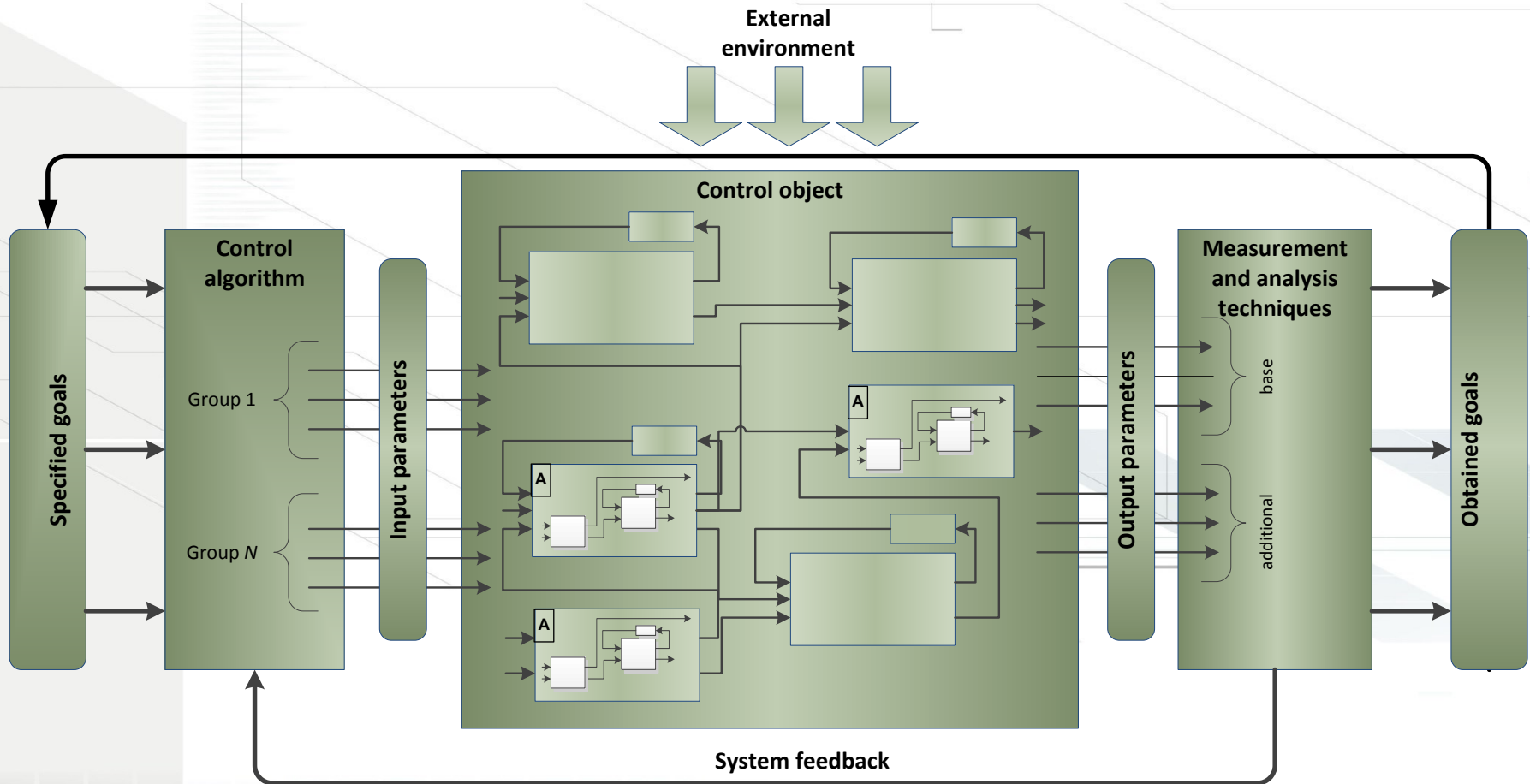
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DAIMLER



System approach (cybernetics, self-organizing, synergetics, control systems)



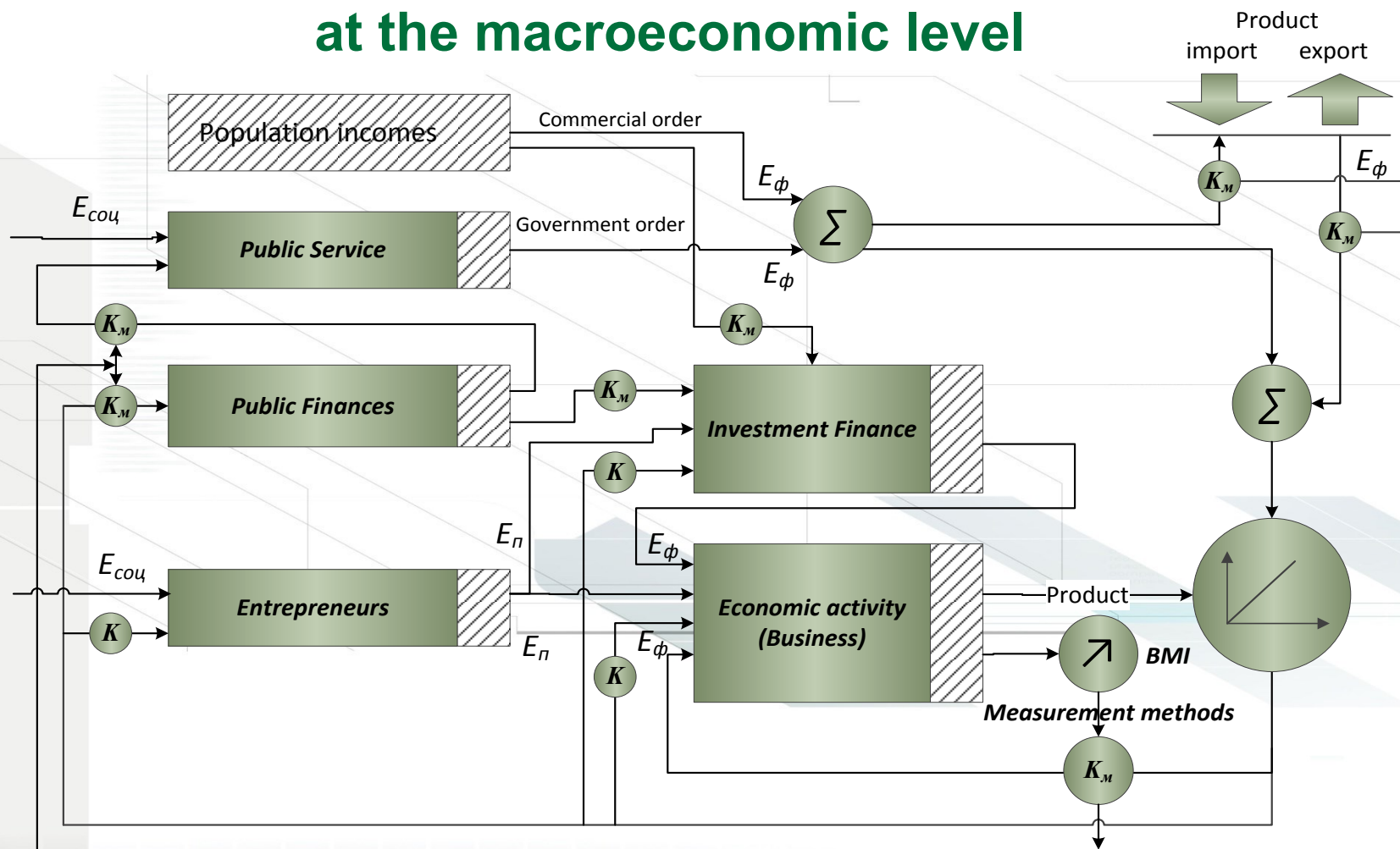


Control systems theory (CST)

- **CST** is a practice-oriented methodology for the application of the system approach;
- **System approach** is the gnosiological school of philosophy based on consideration of the object as a system - a set of elements and relationships between them, which in their community have integral (resultant) properties different from the properties which the elements would have considered in isolation;
- **Element** is a basic philosophical category that defines the original substance, a part of being, and reflects the properties of any object to include smaller components, indivisible as part of the object, but inexhaustible divisible when considered in the different conditions of existence
- **Communication** is the means of the elements influence on each other, i.e. means defining the mutual dependence of elements.
- **External environment** - all elements and relations between them which are not part of the system under consideration



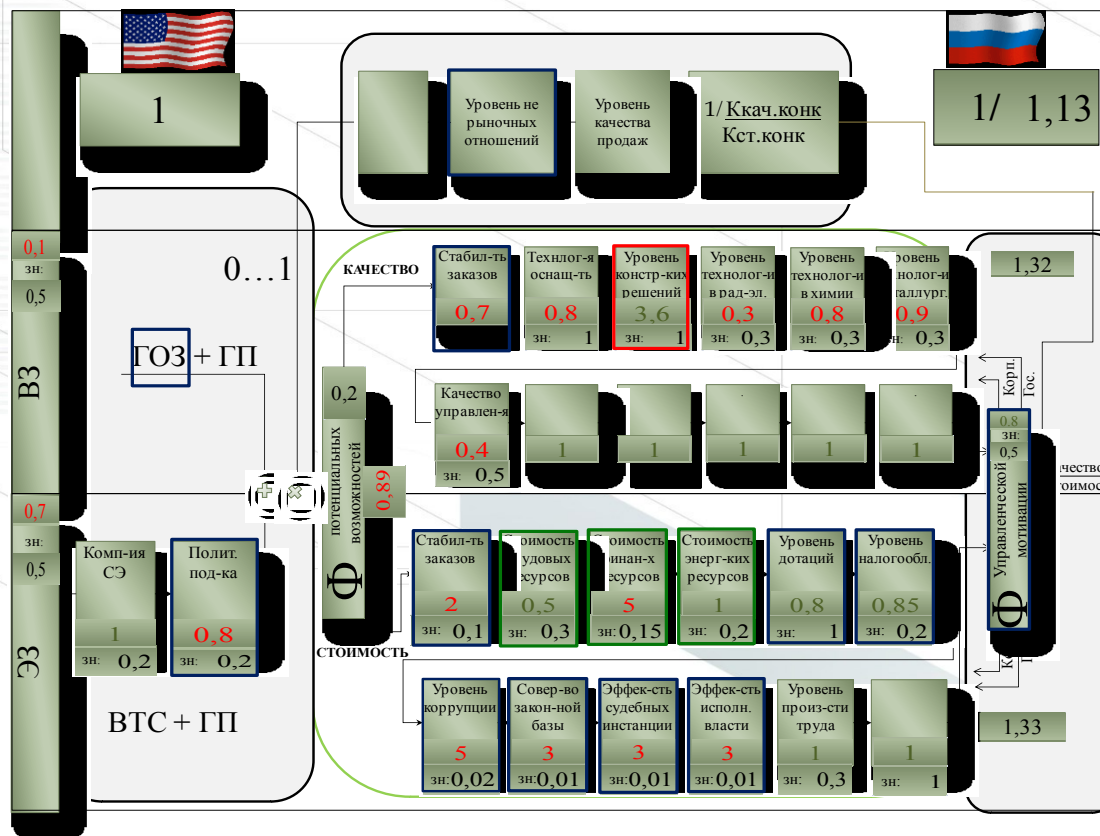
Structure of the economic system model at the macroeconomic level





CST APPLICATION EXAMPLES:

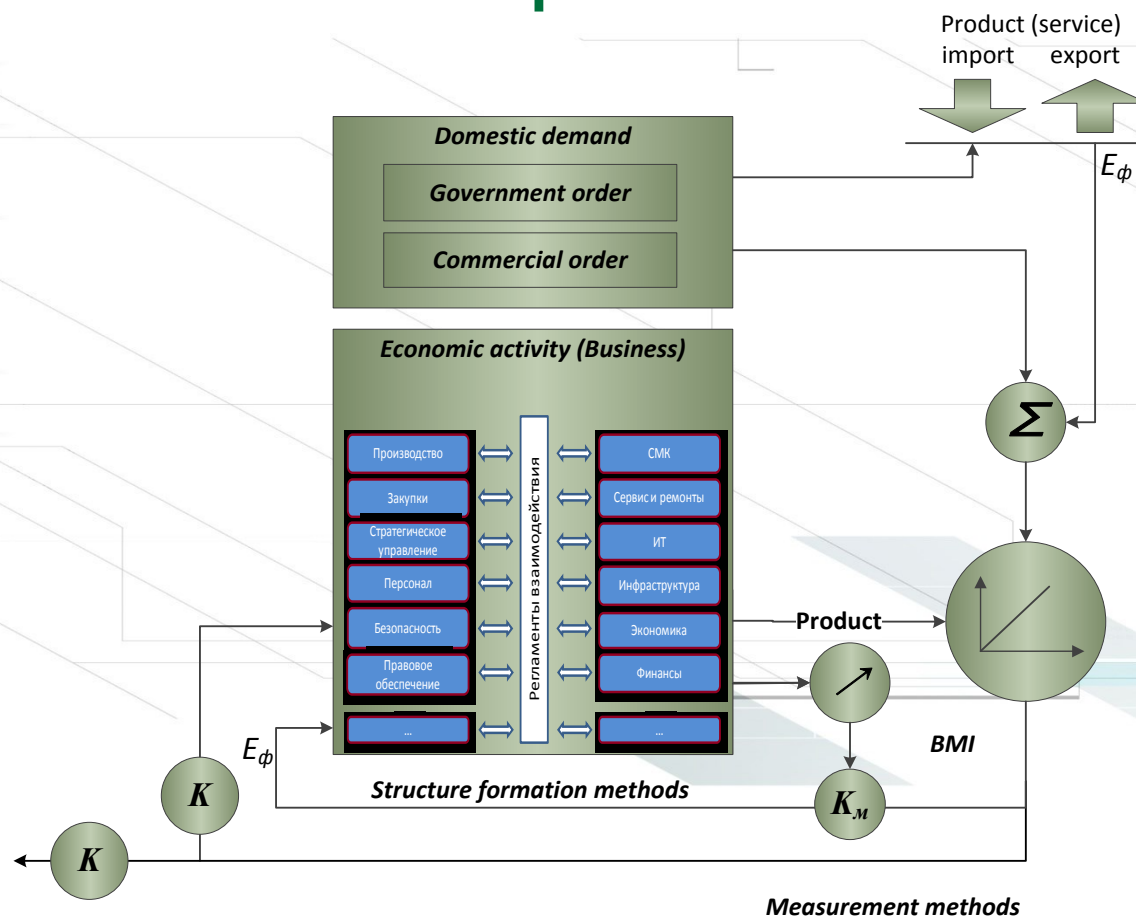
The comparative expert model of the industry competitiveness in...



consuming quality/
costs

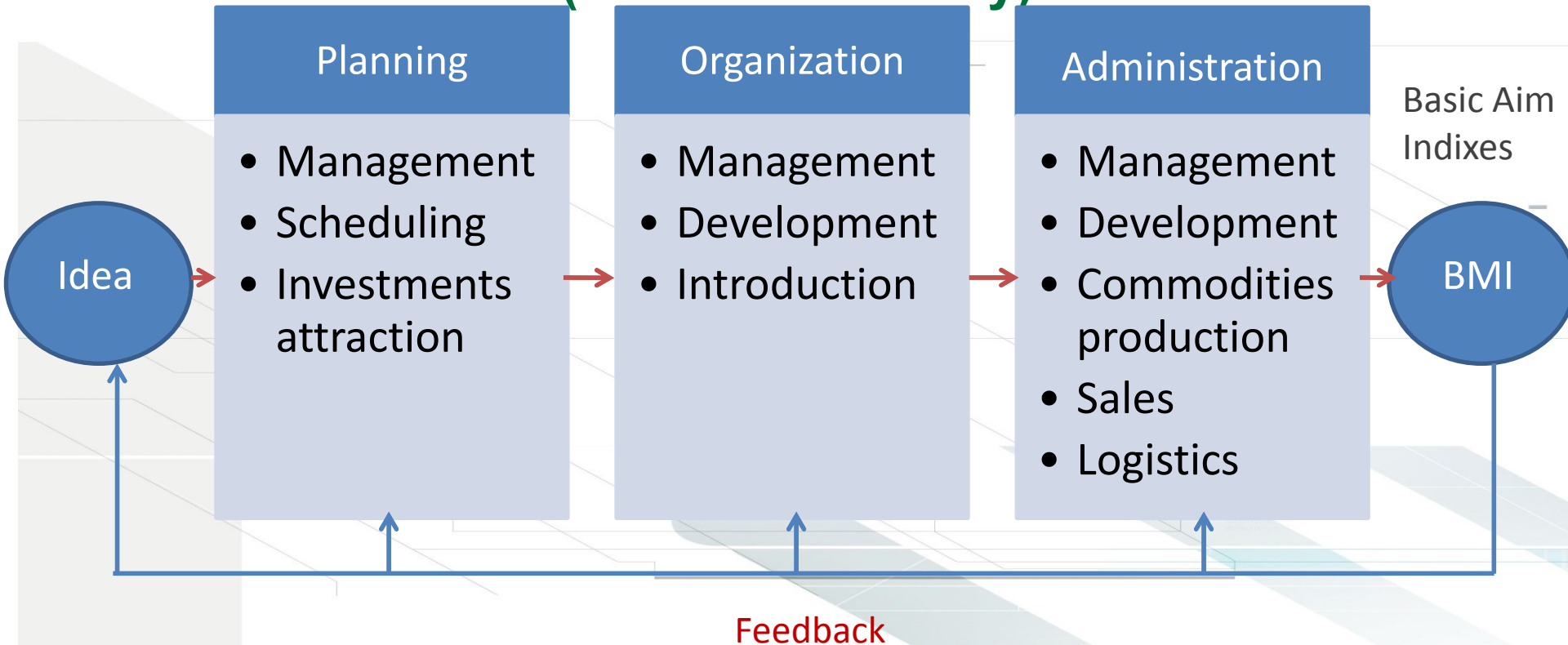


Structure of the economic system model at the corporate level





Stages of the business development (economic activity)





Patterning Factors

Political

- Political stability
- State Authority and support at the foreign markets
- Efficiency of juridical and executive branches
- Legal security
- Business openness
- Corruption level

Economic

- Tax rates
- Resource costs
- Domestic consumption
- inflation rate
- Labor efficiency
- Credit interest rate
- Unemployment
- influence of the infrastructure
- State Support of business

Social

- Comfortable social communications
- Cultural environment, ethical values, religion
- Education level
- Social protection
- Social structure and the level of social stratification
- The average level of income and subsistence

Objective

- Availability and development of necessary capacities and technologies
- Human qualification
- Standards development and implementation



The access to technologies:

- ✓ Development from fundamental level
- ✓ Outsourcing specialists with the required competencies
- ✓ The purchases of licenses, know-how, complete equipment
- ✓ Asset acquisition from M&A

Features of operating business :

USSR

TODAY

Production requirements scheduled

Guaranteed sales of products

Cost limits are scheduled, minimal operating risks

Production requirements are determined by consumers

Market trading system

Market limits of costs

Industry locating under political factors

Limited collaborating with foreign partners

Limited information space

Business mobility

Accessibility of M&A

Open information space



The organization of hi-tech production on the basis of AVTOVAZ (AVAZ)

BTM (basic aim metrics):

- Development of modern technologies of car production capacity of 600 thousand units (about 10% of the world market)
- The organization of production based on USSR technology
- Ensuring a minimum level of costs using the specified product requirements and scheduled resource cost





Problems to be solved in the organization of the economic activity on the basis of the advanced technologies transferred by a third party

- **Confirmation of competences :**
 - renewed political support for the project
 - evidence of the competitiveness of products planned for release (purchase of the product)
- **Obtaining rights to use the technology**
- **Cost. Payment Options for licenses - lump price, royalties**
- **Terms**
- **Project development (units interaction)**
- **Development of the project on the organization of each division (part of production) or job requirements (in the case of the customer design)**
- **Creating a design department (Design Bureau)**
- **Job requirements for equipment to be used**



Problems to be solved in the organization of the economic activity on the basis of the advanced technologies transferred by a third party

- Manual of the commissioning (supervision)
- Homologation (adaptation to local raw materials)
- Documentation on the quality system, taking into account the standards of the region
- Terms of delivery (revised requirements of INCOTERMS)
- The documentation for the production of specific products
- Guarantees
- Force majeure
- Settlement of disputes
- Sanctions
- Training
- Other terms



Pre-contract work

The conclusion of the Long-term program of deepening economic, industrial and technical cooperation between the USSR and Italy dated October 29, 1979 and the Agreement on economic cooperation between the USSR and Italy in the period 1980-1985 dated October 27, 1979.

According to The General Agreement concluded between USSR Ministry of Foreign Trade and Fiat, Avtopromimport and Fiat signed the contract in Moscow on the 15 of August 1966 concerning the project and other services to be rendered by the Fiat for USSR light vehicle plant creation with production capacity of 600,000 vehicles a year (about 2,000 vehicles a day).



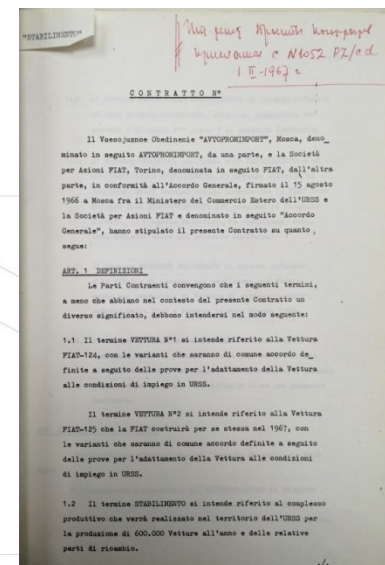
Contract

Definition of the plant composition and a production program

The plant designed by the Fiat must be designed to ensure that the annual production of 400,000 units of the car model 1 (of which 50,000 with a "Universal" body type) and 200,000 pieces of car model 2 with the annual production of 600,000 cars excluded 10% of the spare parts production (in the period until the end of 1972).

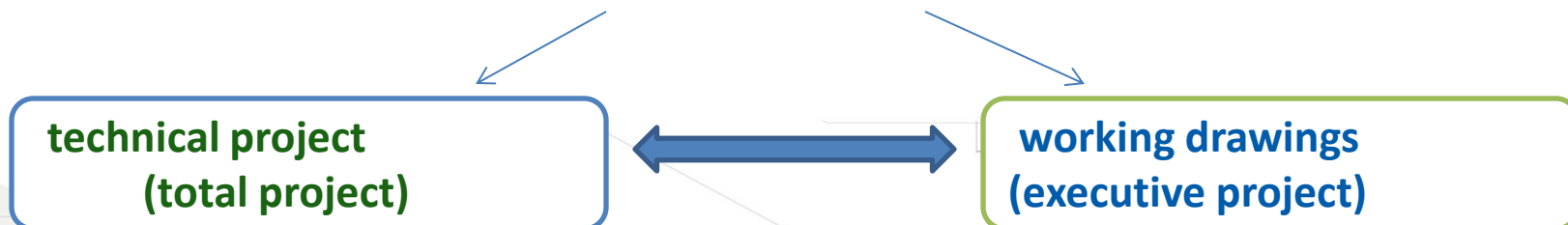
At the plant designed by the Fiat, the following departments and services shall be provided:

- Procurement Shops
- Sheet-metal Forming Workshop
- Machining Shops
- Assembling Shops
- Shipping Division
- Spare parts Storehouse
- Engineering Centre
- Auxiliary Services





Plant Project



➤ technical project (total project)

Technical project of the Fiat consists of a master plan scheme, major distribution networks schemes, schemes of placement of the bridge cranes and basic technical data for all common facilities.

Soviet organizations designs all technical projects and communication facilities outside the Plant.

➤ working drawings (executive project).

The Fiat makes working drawings for process, transport, storage part of the Project, as well as certain specific installation and project executive organization and management of production, including automatic data processing system.

On the basis of the data are supplied by the Fiat, Soviet design organizations operate drawings for all buildings and structures, working drawings of heating, ventilation, sanitation, working drawings of electricity installations, pipelines, all the energy and sanitation and communication facilities (utilities) at the plant and outside it.



Services of the Fiat - guarantee and responsibility

- ✓ Fiat purchases equipment from Italian firms and individual companies of third countries by orders of Avtopromimport.
- ✓ Fiat carries installation supervision and commissioning.
- ✓ Fiat invites Soviet specialists to participate in work related to the Plant design.
- ✓ Avtopromimport undertakes to accept specialists of the companies-suppliers of special equipment for installation supervision and commissioning.
- ✓ On the terms provided by individual contracts, Fiat renders assistant to Avtopromimport that may be required in connection with the design and construction of the plant during the period of putting the plant into operation and guarantee period.



Fiat guarantees under its responsibility and competence :

- high-quality development of all projects in accordance with Technical Assignments and comments of Avtopromimport;
- implementation of projects in full conformity with planned technical and economic indices;
- completeness of project documentation;
- proper selection of modern equipment for the Plant;
- timely supply of equipment and tooling;
- proper commissioning of the Plant equipment;
- plant putting into operation of model 1 in 1969 and model 2 in 1970, bringing the Plant to design capacity in 1972;
- normal operation of lines and certain types of equipment, as well as the whole Plant;
- proper training of Soviet personnel in accordance with the agreed programs.



Remuneration due to the Fiat and terms of payment

As a reward for project documentation and other services of the Fiat for Avtopromimport both in Italy and in the USSR pursuant to this Contract, Avtopromimport effect payments to the Fiat for the global amount of 16.250.000 (sixteen billion two hundred fifty million) Italian lire, making part of remuneration of 30 billion Italian lire.



Other conditions

- All possible modifications in the conditions of the present Contract shall be made in writing and signed by both parties.
- This contract enters into force on the day of its signature (August 15, 1966) and remain valid until August 15, 1974.
- All taxes, fees, and other costs connected with the conclusion and performance of this Contract are borne in Italy by the Fiat, and are borne in the USSR by Avtopromimport.
- All appendices of the Contract make integral part thereof.
- The Parties shall endeavor to resolve all disputes amicably.



Цены на стр 42 В
CONTRACT No. 34-04/40107-115

Trans No. 21169

Vsesojuznoje Importnoje Objedenenije "Avtopromimport", Moscow, hereinafter referred to as the Buyers, on one part, and Messrs. "Froude Engineering Ltd.", England

hereinafter referred to as the Sellers, on the other part, have concluded the present Contract for the following:

ARTICLE No. 1

SUBJECT OF THE CONTRACT AND VOLUME OF THE DELIVERY

1. The Sellers manufacture and deliver to the Buyers FOB London / Tilbury UK port

stowed, on second

~~border station of the Buyers' choice~~ the equipment according to the specification and technical conditions stipulated in Appendix No. 1, the technical documentation stipulated in Appendix No. 2, ~~the spare parts stipulated in Appendix No. 3 and the tools stipulated in Appendix No. 4~~ to the present Contract. In certain cases upon the agreement of the parties the shipment may be effected free on board Aeroflot aircraft in London

airport, by motor transport or parcel post.

2. To ensure normal and trouble-free operation of the equipment to be delivered with the capacity and other indices, stipulated in Appendix No. 1 to the present Contract the Sellers undertake:
2.1. To provide the Buyers with all the experience the Sellers possess and "know-how" for operation and repair of the equipment to be delivered.

2.2. To provide training for Soviet specialists, ~~approximately 2~~ person/s for 2 weeks ~~in a similar~~ at similar operating equipment in accordance with the programme agreed upon by the parties, providing them with an interpreter, whenever necessary, and to pass on to them necessary knowledge on correct utilization and maintenance of the equipment.

2.3. To supply spare parts, which allow for the normal operation of equipment for at least two years upon expiration of the guarantee period, according to the specification and prices, which will be agreed upon with the Buyers within 6 months after signature of the Contract.

A detailed specification with indication of prices, denominations, data, types, catalogue Nos., suppliers (manufacturers) and weights of spare parts will be passed over by the Sellers to the Buyers for their approval within 3 months, after signature of the Contract; at that the prices of standard elements (electrical, hydraulic, pneumatic etc.) should not exceed those of current price lists of suppliers (manufacturers).

~~2.4. To supply cutting and milling tools, coolers and gauges.~~

~~Specification and prices of testing devices and gauges will be agreed upon according to the programme and within the time stipulated in item 2.5 of the present article.~~

3П1000

ARTICLE No. 2

PRICES AND TOTAL VALUE

1. The total value of the equipment, spare parts, ~~tools~~, technical documentation and services in the volume of the present Contract amounts to: £ 362,500
(Three hundred sixty two thousand five hundred /00 Engl.Pounds St.)

~~2. The prices for items specified in Appendix No. 3~~

2. The prices are firm and subject to no alteration.

3. The prices are understood FOB London / Tilbury UK port
stowed ~~and/or transited~~

~~xxxxxxx~~ border station, including the cost of sea-worthy packing, marking and other delivery expenses.

When delivery is on the FOB terms, the price also includes dock and port dues, crange and customs duties, cost of loading on board the ship and stowing in the hold.

5. All taxes, customs duties and other dues on the cargo to be taken on the Buyers' territory, are at the Buyers' expense, those on the Sellers' territory, at the Sellers' expense.

3П1000



ARTICLE No. 3

TIME OF DELIVERY

1. The delivery under the present Contract is to be effected _____
in January 1984 (prior delivery is acceptable on the
Buyers' written consent)
2. By the specified time the equipment is to have been manufactured, tested, packed and delivered
FOB London / Tilbury
3. The date of delivery is considered the date of "Clean on Board" Bill of Lading, _____
stowed of _____
4. The title to the goods as well as the risk or loss or damage to
the goods shall pass from the Sellers to the Buyers; after the goods have
been loaded and stowed into the hold.

3B1000

ARTICLE No. 4

TERMS OF PAYMENT

The payment under the present Contract is to be effected by the Buyers as follows:

1. 95 % of the value of the deliveries to be paid in cash after 30 days from the date of receipt by the Bank for Foreign Trade of the USSR in Moscow for collection of the following documents:
 1. The Sellers' invoice in 4 copies;
 2. Full set of "Clean on Board" Bills of Lading, issued in the name of the Buyers, destination Soviet port, or duplicates of Railway Bills, or other transport documents stipulated in the Contract;
 3. Packing Lists in 3 copies;
 4. The Sellers' Letter of Guarantee of the quality and completeness of the delivered equipment including the technical documentation — in 2 copies;
 5. Release for shipment issued by the Buyers' inspector if he was present at the tests or a representative of the Buyers at the USSR Trade Representation in London _____ if the inspector was not present at the tests in 2 copies;
 6. Test Reports in 2 copies;
 7. Photocopy of a valid Export Licence, if required.Simultaneously one copy of the documents as per clauses 1, 3, 6 is to be mailed directly to the Buyers' address. The payment is to be effected only provided complete deliveries are made (completely delivered trans, including technical documentation _____).
 - II. 5 % of the value of the deliveries (guarantee amount) to be paid in cash after putting the equipment into operation and expiration of the guarantee period after 30 days from the date of receipt by the Bank for Foreign Trade of the USSR in Moscow for collection of the following documents:
 1. The Sellers' Invoice in 3 copies;
 2. Protocol of Final Tests and Putting the Equipment into Operation, signed by the Buyers' and the Seller's representatives, confirming that the equipment has met the guaranteed quantity and quality requirements;
 - III. All the collection expenses of the Sellers' Bank will be borne by the Sellers and those of the Buyers' Bank — by the Buyers.
 - IV. When effecting payment of the Sellers' invoices, the Buyers have the right to make deductions provided for by the Contract. This right is to be stated in the Sellers' order for collection.
- *) the ultimate Consignee : Poligon NAMI
141800 Dmitrov-7
USSR

Y. Payment will be effected through the Moscow Narodnyi Bank Ltd.
London

УП111—2000



ARTICLE No. 5

PACKING AND MARKING

1. The equipment is to be shipped in export seaworthy packing corresponding to the nature of each particular type of the equipment

The packing is to secure the full safety of the goods from any kind of damage and corrosion while transporting by sea, railway and combined transport, taking into account several transshipments en route as well as long storage.

The cargo must be packed in a safe way to prevent from being shifted inside the case when handling the latter during transportation.

The packing shall be fit for transshipments by crane as well as for transshipments by cars and auto-cars, as far as it is permitted by the weight and the volume of separate packages.

Before packing all the machined parts of the equipment are to be preserved with the appropriate coating to prevent from damage and corrosion during transportation and to ensure safe storage during hot summer and cold winter (down to minus 40°C).

2. Each packed unit shall not exceed the following dimensions:

a) length 10,000 mm width 2,700 mm, height 2,700 mm.

At the height of 2,700 mm of the case the corners shall be cut off so that the width of the case does not exceed 1,500 mm at the height of 3,700 mm.

b) Should a separate part of the equipment exceed the above dimensions, such parts may be packed in the cases the dimensions of which are not to be more than:

length 10,000 mm, width 3,800 mm, height 3,700 mm.

At the height of the case of 2,300 mm the corners of the case shall be cut off so that the width of the case does not exceed 2,350 mm at the height of 3,700 mm.

For the packages the dimensions of which exceed those mentioned in sub-clause "a", the Sellers are obliged to send to the Buyers three copies of the sketches indicating exact length, width and height, as well as the centre of gravity in three projections, 45 days before the beginning of the delivery month.

Moreover while shipping these cases the Sellers shall attach three copies of the sketches indicating the centre of gravity to the Bill of Lading which is forwarded along with the cargo.

If separate parts of the equipment exceed the dimensions stated in sub-clause "b" the Sellers are to agree upon the dimensions of the cases with the Buyers before manufacturing this equipment.

c) Each package exceeding 500 kg must have solid sledges made of wooden bars with gripping devices for ropes.

3. The Sellers shall be responsible to the Buyers for any breakage or damage to the cargo owing to the improper packing, for corrosion caused by insufficient or improper preservation.

4. The cases in which the equipment is packed are to be marked on three sides: on two opposite sides and on the top of the case.

The marking shall be clearly made with indelible paint both in the language of the Sellers' country and in Russian stating as follows:

Poligon NAMI, 141800 Dmitrov-7, USSR	В/О «Автопромимпорт», СССР
V/O «Avtopromimport», the USSR	Контракт №
Contract No.	Транс №
Trans No.	Ящик №
Case No.	Вес нетто
Net weight	Вес брутто
Gross weight	Размер ящика в см
Dimensions of case in cm	(длина, ширина, высота)
(length, width, height)	

5. The packages for which special handling is required shall have an additional marking: "Handle with care", "Top", "Do not turn over" as well as other indications which may be necessary owing to the particular nature of the goods.

6. In those cases when a complete unit of the equipment consists of several packages they shall have irrespective of the kind of packing the following numbering: the package number is to be marked with a fraction the numerator of which states the ordinal number of the package and the denominator refers to the total number of the packages in which the complete unit of the equipment is packed or of which it is composed.

7. A waterproof paper envelope containing a copy of the packing list shall be fastened to the external side of each case. The envelope is to be covered with a metal plate either nailed to the case or brazed directly to the metal non-working parts of the equipment, if the equipment is conveyed without packing. Another copy of the packing list is to be put into the case containing the equipment.

8. On oversize and heavy packages as well as on the cases the weight of which exceeds 500 kg there must be shown the centre of gravity on each package with indelible paint by the mark "+" and the letters "ЦТ", as well as places for gripping with ropes.

9. The Sellers are responsible for additional transport and storage charges incurred due to the dispatch of the equipment to a wrong address caused by the improper or incorrect marking.

10. Additional requirements concerning the marking are stated in Appendix No. 4



ARTICLE No. 6

SHIPMENT

1. Not later than 45 days before the delivery of the equipment the Sellers should submit to the Buyers a list of the equipment to be delivered indicating its weight, dimensions and value.

If the Sellers fail to present the equipment as stated above (wholly or partially) in due time all the expenses connected with dead freight will be charged to the Sellers' account.

2. Within 24 hours after the goods have been shipped the Sellers are to notify the Buyers with a copy to the Trade Representation of the USSR in the Sellers' country by cable or by telex of the following data: number of the Contract, trans, description of the equipment, as well as the name of the vessel, the date and number of Bill of Lading or Railway Bill at the transportation by other means of transport, value of the equipment shipped, number of packages and weight of the equipment.

This information is to be confirmed by a letter within 48 hours.

3. In case the equipment is shipped together with explosive, flammable, toxic or radioactive materials the Sellers are to inform the Buyers of this fact by cable or telex not later than 45 days before the expected date of such a shipment.

4. Storage expenses shall be at the Buyers expenses in the event that the vessel fail to arrive at the port of shipment ^{within 20 days from} at the time of delivery stated in Article No. 3.

302000



ARTICLE No. 7

INSPECTION AND TEST

1. The Buyers are entitled to send their inspectors to the Sellers' and their sub-contractors' Works to check at normal working hours of their Works the manufacture and quality of the contracted equipment and of material used.

2. The Sellers' notification of the readiness of the equipment for test is to be sent to the Buyers' representative in the USSR Trade Representation in the Sellers' country and a copy to the Buyers and received by the Buyers' representative in the USSR Trade Representation not later than 15 days before the beginning of the test.

Should the Buyers within 15 days after receipt of a notification inform the Sellers that the Buyers' inspector cannot be present at the tests or should the Sellers fail within that period to receive any notification, the Sellers are entitled to perform the test without the Buyers' inspector. In this case one copy of the Test Report is to be sent to the Buyers' representative in the USSR Trade Representation in the Sellers' country to obtain the Release for shipment, conditioning that the test has proved the conformity of the equipment to the Contract requirements.

3. The test of the equipment is to be effected at the Sellers' and/or their sub-contractors' Works at the Sellers' expense in the presence of the Buyers' inspector and is to be fixed in a corresponding report stating essential details and the test results as well as stating that the equipment is in full conformity with the terms and conditions of the Contract.

4. The presence of the Buyers' inspector at the tests performed by the Sellers as stated above, as well as the issue of the Release for shipment by the former do not free the Sellers from their obligations and do not affect the Buyers' rights stipulated in the Article "Guarantee".

5. The tests of the equipment are performed according to the programme ^{and to the extent} ~~as stated in Appendix No. 3.~~

~~The tests are to be performed at the Sellers' expense in the presence of the Buyers' inspector.~~

The Sellers will supply necessary tools for the tests.

~~The tests are to be performed at the Sellers' expense in the presence of the Buyers' inspector.~~

~~The tests are to be performed at the Sellers' expense in the presence of the Buyers' inspector.~~

6.7. The final tests and acceptance of the equipment are to be performed at the Buyers' Works in the USSR. The date of signing the "Report on final tests and putting the equipment into operation" is the date of putting the equipment into operation.

3H11000



ARTICLE No. 8

SANCTIONS

1. In the event of the Sellers' delay in the supply against the dates stipulated in the Contract the Sellers are to pay to the Buyers penalty at the rate of 0.5% of the value of the equipment, not delivered in due time for every week of the delay within the first four weeks and 1% for every subsequent week, but not more than 10% of the value of the equipment, not delivered in due time.

2. The penalties will be deducted from the Sellers' invoices when they will be paid by the Buyers. In case the Buyers for any reason do not deduct the penalty when paying the Sellers' invoice, the latter is obliged to pay the penalty amount at the first request of the Buyers.

3. Should the delay in delivery exceed four months the Buyers shall have the right to cancel the Contract or a part thereof.

4. Should the shipment of the equipment not be notified or be notified with delay, the Sellers are to pay to the Buyers penalty at the rate of 0.1% of the value of the equipment already shipped.

5. The above sets out in full the Parties rights and remedies in the event of delay and no Party shall have any liability to the other for delay save as set out above.

ARTICLE No. 9

GUARANTEE

1. The Sellers guarantee:

1.1. That the equipment supplied is in full accordance with the highest world technical achievements and meets the highest standards for this type of the equipment existing at the time of delivery;

1.2. High quality of the materials used in the manufacture of the equipment, first rate workmanship and high quality of the manufacture and assembly;

1.3. That the equipment to be supplied has been manufactured in full conformity with the description, technical specifications and with the conditions of the present Contract;

1.4. That the completion of the equipment to be delivered and of the technical documentation supplied is in accordance with the requirements specified in the Contract.

2. The period of guarantee of the normal and trouble-free operation of the equipment is to be 12 months from the date of putting it into operation but not later than 36 months from the date of shipment of each complete unit of the equipment.

3. If during the guarantee period the equipment proves to be defective or not to conform to the conditions of the Contract the Sellers upon the Buyers' demand undertake repair and at their expense to eliminate the detected defects by means of repairing or replacing the defective equipment or its parts with new ones irrespective of the fact that such defects and the non-conformity might have been detected during the tests at the Sellers' or sub-contractors' Works **provided that technical manuals were observed.**

In this case the Buyers are entitled to request the Sellers to pay the penalty as for delay in delivery at the rate stipulated in Article "Sanctions" counting from the date when a claim has been made till the date of elimination of the defects or replacement of the equipment. However the amount of penalty is not to exceed 10% of the value of the equipment including the penalty for delay in delivery if such a delay has taken place and the penalty has already been charged.

4. The replaced defective equipment or parts are to be returned to the Sellers at their request and for their account within the time agreed upon by the Parties.

All the transportation or other expenses connected with the return and/or replacement of the defective items are to be borne by the Sellers.

5. The above period of guarantee in respect of repaired equipment or parts delivered instead of the defective ones begins anew from the date of putting them into operation.

6. If the defects cannot be eliminated the Buyers have the right to reject the defective equipment or to request a corresponding reduction from its price.

In case the Buyers reject the equipment they return to the Sellers for the latter's account the faulty equipment and the Sellers are to repay the sums paid by the Buyers with 7 % per annum.

***) within 1 /one/ month**



ARTICLE No. 10

INSURANCE

1. The Buyers undertake to bear all cares with regard to the insurance with Ingosstrakh USSR of the equipment to be delivered under the Contract in the Sellers' favour of the date of shipment from the Sellers' and/or their sub-contractors' factories up to the moment of the delivery in accordance with "Transport Insurance Rules" of Ingosstrakh USSR.

2. The insurance expenses from the Sellers' and/or their subcontractors' factories up to the moment of goods delivery at the rate of 0.075% of the insurance sum are to be charged to the Sellers' account and to be deducted by the Buyers from the Sellers' invoice.

3. Insurance during the whole period of transportation and transshipments is to be effected on conditions covering responsibility for "particular average" according to clause 2 §2 of the "Transport Insurance Rules" including damage to cargo by cranes, oil, freshwater (excluding sweating) and by other cargo, including breakage, theft of whole packages or a part of them or short-delivery of whole packages and in all the cases mentioned above irrespective of the percentage of the damage.

1С3000

ARTICLE No. 11

FORCE-MAJEURE

1. The circumstances of force-majeure (fire, flood, earthquake, epidemic) postpone correspondingly the delivery dates stipulated in the Contract for the period of duration of these circumstances, but only in the case when these circumstances affect to a great extent the execution in due time of the whole Contract or that part of it which is to be delivered after the circumstances have arisen.

The Sellers shall immediately notify by cable the Buyers of the beginning and cessation of the circumstances of force-majeure. This notification is to be confirmed by the local Chamber of Commerce.

2. If due to the circumstances of force-majeure the delay in delivery is more than 6 months the Buyers are entitled to cancel the whole Contract or a part thereof.

In this case the rights and obligations of the Parties are regulated as per Article "Export Licences".

3Ф2000



ARTICLE No.12

EXPORT LICENCES

1. The Sellers shall bear all cares and expenses connected with the obtaining of the export licences for delivery to the USSR of the equipment within the scope stipulated by the present Contract.

2. Should the licences not be obtained or be revoked by the appropriate authorities or should its validity expire prior to the complete execution of the Contract, the Buyers are entitled to cancel the non-executed part of the Contract or the whole Contract.

In this case the Buyers return to the Sellers the received technical documentation and/or the delivered equipment on FOB Soviet port and/or Free on rail Soviet frontier station terms. The Sellers are obliged to repay to the Buyers all the sums paid by the latter before the cancellation of the Contract with 7 % per annum.

ARTICLE No.13

ARBITRATION

1. All disputes and differences which may arise out of or in connection with this Contract shall be settled in an amicable way.

In case such an amicable settlement proves to be impossible the disputes and differences shall be resolved by an Arbitration which will take place in Stockholm, Sweden, the resort to the courts of law or commercial courts being excluded.

The Arbitration body will consist of two Arbitrators and one Umpire.

The Party desiring to refer a dispute (difference) to the Arbitration, shall inform the other Party by a registered letter stating the name and the address of the Arbitrator chosen, who can be a citizen of any country, as well as the object of the dispute, number and date of the Contract.

The other Party within 30 days after receipt of the above letter shall choose the second Arbitrator, who also can be a citizen of any country, and inform the first Party about it by a registered letter stating the name and address of the Arbitrator chosen by it.

If the Party which has been informed about the reference of the dispute to the Arbitration does not choose the second Arbitrator within the said period, the Arbitrator, at the other party's request, will be appointed by the President of the Chamber of Commerce in Stockholm, Sweden.

The Arbitrators shall choose the Umpire.

If the Arbitrators do not agree upon the choosing of the Umpire within 30 days, the latter will be appointed by the President of the Chamber of Commerce in Stockholm at the request of either party.

The award is to be issued by majority within 3 months after the Umpire has been chosen or appointed, in accordance with the conditions of the present Contract and regulations of law to be applied pursuant to the regulations on the conflict rule of Sweden.

The allocation of the Arbitration's expenses shall be made by the Arbitration itself.

The Arbitration award is final and binding upon both parties.

2. In all cases when the Buyers according to the terms and conditions of the Contract have right to cancel the Contract or a part thereof, no resort to the Arbitration and/or no Arbitration award is required.



GENERAL PROVISIONS

1. All the appendices mentioned in the present Contract are to be considered integral parts of the Contract.
2. All the amendments and addenda to the present Contract are valid only if they are made in written form and signed by the Contracting Parties.
3. The Sellers have no right to transfer the execution of the present Contract to third parties without the Buyers' written consent.
4. The payment of penalties by the Sellers and/or compensation for direct damages do not release the Sellers from the execution of the Contract.
5. Copies of all correspondence concerning the fulfilment of the present Contract are to be sent to the USSR Trade Representation in **London**
6. Shipping agents of the Buyers at the port are Messrs. **Anglo-Soviet Shipping Company**
7. Packing, transportation and delivery of the equipment from the Sellers' and/or their sub-contractors' works to the points of shipment as well as storage at the port, loading of the transport facilities and coordination of the delivery shall be effected by **Anglo Soviet Shipping Company provided their price is competitive.**
8. After signing the present Contract all the preliminary negotiations and correspondence between the Parties concerning the Contract become invalid.

331000

LEGAL ADDRESSES OF THE PARTIES

THE BUYERS: Vsesojuznoje Importnoje Objedinenije
"Avtopromimport", Moscow, 109017,
Pjatnitskaja str., 50/2

THE SELLERS: Froude Engineering Limited
Gregory's Bank
Worcester
WR3BAD
England

The present Contract is signed in Moscow
on the " 23 October, 1982 in Russian and English, both texts being authentic, in duplicate,
one original for each party concerned.

The Contract comes into force from the date of its signing.

THE BUYERS
V/O "AVTOPROMIMPORT"

THE SELLERS
FROUDE ENGINEERING LIMITED

ПРОСВЕЩЕНО		
ОТДЕЛ	ДАТА	ПОДПИСЬ
Орг.-адм.	21.10.88	И.И.И.
И.О.	21.10.88	И.И.И.
И.О.эксп. отд.	21.10.88	И.И.И.
Планинг. отд.	23.10.88	И.И.И.
Трансп. отд.	23.10.88	И.И.И.
Финанс. отд.	21.10.88	И.И.И.
Юридич. наст.	22.10.88	И.И.И.

С условиями кассирования, сроками погашения,
объемом погашения согласен

Ф.И.О. - ГАНСКИЙ П.И. / 20.10.82
20.10.82

1104000



APPENDIX № 1

to the Contract № 34-04/40107-115
dated 22nd of October 1982

TECHNICAL SPECIFICATION

Froude-Consine chassis dynamometer for use with trucks and passenger cars.

The dynamometer provides complete road load simulation for trucks/passenger cars. The following tests can be performed using the loading capability of the dynamometer (and other analytical equipment):-

1. Durability tests
2. Constant Volume Sampling (C.V.S.) exhaust emission tests
3. Gradient testing
4. Transient work using the overrun capability of the dynamometer
5. Fuel economy tests

The inertia of the test vehicle is simulated electrically and mechanically for vehicles between 800 kg and 40 tonnes.

The system incorporates an interface chassis and printed circuit boards that allow the dynamometer to be controlled from an external LSI 11/23 micro-computer (of buyers ownership) of DEC manufacture. The software for controlling the dynamometer will be written, tested, verified and demonstrated by Consine and will be delivered to the LSI 11/23 owner in object module form for integration into the LSI 11/23 by the computer owner

Responsibility for integrating the software rests with the computer owner, but assistance with this task will be provided by Consine to a maximum of 40 hours (including any documentation deemed necessary by Consine to effect this integration).

1 Dynamometer - general

The general arrangement of the dynamometer is as Drawing AD-21242.

The dynamometer is designed to accept the drive wheels of the test vehicle (single and tandem axles) and is pit-mounted such that the vehicle wheels are approximately level with the surrounding floor area.

The main elements of the dynamometer are:-

- 1) Roller assembly
- 2) Gearbox
- 3) Torque transducer
- 4) D.C. machine
- 5) Baseframe
- 6) Jacks for lift out platforms



Appendix No. 2 to
Contract 34-04/40107-115
dated 22.10.1982

TECHNICAL DOCUMENTATION

The Sellers are to send to the under-mentioned addresses free on board the plane of Aeroflot airport of the Sellers' country the following technical documentation for the equipment to be supplied:

1. All required data for shop layout and for development of foundation construction drawings, comprising:

General layout drawings with dimensions, foundation layout indicating removal channels and pits taking into account drawing No. and drawings of metallic constructions for assembling complete equipment.

General principal arrangement diagrams of electric, hydraulic, pneumatic and lubrication equipment and of main units of the chip and scrap removal and cooling system.

Summary data of the required electric power rating, consumption of coolant, steam, gas, air in the pneumatic system, as well as lubrication oils, working liquids etc.

2. Arrangement of foundation bolts.

3. Certificate for each machine comprising:

3.1. General installation drawing with basic dimensions, overall dimensions and connections of units and power carriers.

3.2. Technical characteristics of the machines and the whole line.

3.3. Principal and assembling schemes:

— Kinematic scheme stating the transmission characteristics;
— Electric, pneumatic, hydraulic and lubrication schemes stating the characteristics and grades of the applied hydraulic liquids and oils and their manufacturers, as well as cooling schemes stating the composition of the coolant etc.

3.4. Specification and catalogue data of electric, hydraulic and pneumatic equipment, and instruments, included in the standard equipment of the machines stating their basic characteristics and manufacturers.

3.5. Specification of roller bearings, sealings, drive belts and other non-metallic items, completing the machines, stating their types, sizes and their manufacturers.

4. General view drawing of the units and sectional views (including sectional views of bearings support).

Working drawings and specification of rapidly wearing parts of the machines and devices.

~~5. Instruction for assembly, setting up, putting into operation and maintenance of the equipment, including the technological data of its operation (cycles, operation conditions etc.).~~

6. Test and acceptance protocols of the equipment and its separate units (if the test of the units is stipulated in the Contract), signed by representatives of the manufacturing plant, as well as the technical documentation for the units and parts of the equipment with the changes made according to the test results.

7. Certificates for pressure vessels.

The certificate of pressure vessel must include the following data:

7.1. Characteristics of the main parts of the vessel.

7.2. Quality of metal of the vessel and its components, stating mechanical properties and chemical composition.

7.3. Strength analysis.

7.4. Drawing of the vessel with cut-out and binding scheme.

7.5. Welding quality, including mechanical tests of testing components (samples), roentgenoscopy of welded seams, hydraulic tests and certificate of electrodes.

7.6. Characteristics of corrosive environment and lining of the vessel.

7.7. Operating pressure and temperature.

8. The documentation is to be sent to the following addresses:

8.1. **Poligon NAMI**

8.1.1. _____

under items 1, 2, 3 — 3 copies in ~~Russian~~ ^{English} and 1 copy in the language of the Seller's country

8.1.2. _____

under items 1, 2, 3, 4, 5, 6, 7 — ³ ~~2~~ copies in ~~Russian~~ ^{English} and 1 copy in the language of the Seller's country. ^{English}
NOTE: 1 copy of the technical documentation under items 3, 4, 5 is to be sent additionally in ~~Russian~~ ^{English} on ~~transparent paper~~ ^{35 mm card mounted film}.

8.2. The Trade Representation of the USSR in London

8.3. To V/O "Avtopromimport" — the copies of all covering letters enclosing the specification of the documentation dispatched and photocopies of air way bills, confirming the dispatch of the technical documentation to the above-mentioned addresses.

9. In addition, 2 sets of the above technical documentation in ~~Russian~~ ^{English}, wrapped in waterproof paper are to be put into case No. 1 of each machine.

10. In case the technical documentation is not received together with the equipment or by post the delivery is considered to be incomplete.

11. The stated documentation is to be sent:

under items 1,2 — within 2 months from the date of signing the Contract.

under items 4,5 — within 6 months from the date of signing the Contract.

under items 3,6 and 7 — 2 months prior to the delivery.

THE BUYERS

V/O "Avtopromimport"

THE SELLERS

"Froude Engineering Ltd."



APPENDIX № 3

to the Contract № 34-04/40107-115
dated the 22nd of October 1982

PROGRAMME OF TESTS AND COMMISSIONING

This document sets out the trials necessary to prove the machine performance. It is intended that the whole procedure will be carried out at the time of shop testing, but that the "calibration of inertia" will be omitted during site testing since the value of this will not alter.

Testing in our shop will be undertaken at reduced current capability due to the capacity of the A.C mains, so it will not be possible to demonstrate the full performance envelope at that time, but will be demonstrated at site test providing vehicles capable of operating at the extreme parameters are made available for the whole of the commissioning period by the buyer.

These vehicles will consist primarily of a light passenger car (800 kg) and a truck with the full tractive effort capability. Should such vehicles not be available then such testing as is possible will be accepted as performance verification by the buyer.

Further, adequate means of restraining such vehicles must be made available by the buyer to prevent the vehicles leaving the machine under uncontrolled conditions.

It is envisaged that site testing will immediately follow installation.



Appendix No. 4
to Contract No. 34-04/40107-115
dated "22" October, 1982

**ADDITIONAL CONDITIONS OF PACKING
AND MARKING OF THE EQUIPMENT**

I. Packing

1. Cases should be made of high quality timber of firm or soft wood, which must not have either cracks and knots, which can be easily squeezed out, or other defects diminishing solidity and reliability of the packing.

Planking boards of cases are arranged tongue and groove without chinks and fastened together.
2. Cases of packing instruments, electric apparatus and other precise equipment should be planed on the external and internal sides. For upholstering the internal sides of cases either waterproof paper, tarred felt or paper of appropriate density or modern insulation materials can be used.

For wrapping up separate parts as well as instruments and electric apparatus there must be used oil or paraffin paper.

In case of using wood shavings for packing they should be dry.

3. Packing should be hermetic owing to using soldered polyethylene or other sacks, moisture absorbing material being put into each sack.

II. Marking of packages

1. The cases in which the equipment is packed are to be marked on three sides: on two opposite sides and on the top of the case. The marking shall be clearly made with indelible paint both in the manufacturer's and in the Russian language, stating as follows:

Consignee	Poligon MAMI	— with red paint
V/O "Avtopromimport", USSR		
Contract No.		
Trans No.		
Net weight		— with black paint
Gross weight		
Dimensions of case in cm		
(Length, width, height)		

2. The packages for which special handling is required shall have an additional marking: "Handle with care", "Top", "Do not turn over", as well as other indications which may be necessary owing to the particular character of the goods.

3. Each case containing spare parts, accessories and tools packed separately, as well as cases where the equipment, spare parts, accessories and tools are all packed together shall be marked with a coloured stripe (5 cms wide and at least 50 cms long).

The cases containing spare parts shall be marked with a black stripe, accessories with a green stripe and tools with a red one.

The stripe is to be horizontal above the marking on the two opposite lateral sides of a case and on the top panel (which has the marking).

If the spare parts, accessories and tools are packed in the same case, the latter shall be accordingly marked with stripes of all the required colours.

4. In those cases when a complete unit of the equipment consists of several packages they shall have irrespective of the character of packing the following numbering: the package number is to be marked with a fraction, the numerator of which shows the ordinal number of the package and the denominator refers to the total number of the packages in which the complete unit of the equipment is packed.

For example: A unit is packed in 23 cases, the figure 23 is put as the denominator. The ordinal numbers of the packages from 1 to 23 are put as numerators, i.e. the first case will have the marking — 1/23, the second one — 2/23 etc. up to 23/23.

The package number is stated after the main marking:

For example: V/O "Avtopromimport"

Contract No.
Trans No.
Net weight
Gross weight
Dimensions of case in cm
Package No. _____



Appendix No. 5

to Contract No. 34-04/40107-115
dated 22 "October", 82 19

CONDITIONS AND ORDER OF ACCOMPLISHMENT
OF THE SUPERVISION OF ERECTION

1.

1.1. The Sellers undertake by means of their service specialists to provide for supervision of erection, as well as tests, setting up and putting into operation of the equipment to be supplied under the present Contract, hereinafter referred to as the Equipment, as well as to ensure the guaranteed production rate and other indices in accordance with the technical requirements of the Contract, having trained within the period of erection the Buyers' personnel with the methods of setting up and operation of the equipment including sharing of the experience and specific work skills.

2.

2.1. For the execution of the range of work stipulated in Par. I of the present Appendix the Sellers send to the project site in the USSR at the Buyers' disposal the following specialists within 30 days from the date of the Buyers' request:

2.1.1.	<u>2</u> /two/	persons	(Supervision engineers)
2.1.2.		persons	
2.1.3.		persons	
2.1.4.		persons	
2.1.5.		persons	

2.2. The Sellers undertake to send to the USSR at the Buyers' disposal other specialists required for supervision of erection, if required by the Buyers.

2.3. Should it be necessary to send urgently the Sellers' specialists, the time of their departure shall not exceed 15 days from the date of receiving the request.

2.4. The period of erection work, setting up and passing the equipment into operation is approximately proceeding from 16 persons/weeks and may be defined by the Parties' representatives at the Buyers' plant before the beginning of the erection.

If the above period of time proves to be insufficient, the Parties will consider the causes of delay and decide whether it is possible to extend it, the Buyers having the right to extend the time of stay of the Sellers' specialists for a necessary period on the terms of the present Contract.

If it is ascertained that the Sellers are responsible for the fact that the erection work has not been carried out within the above period, all the expenses connected with the further stay of the Sellers' specialists in the USSR are to be charged to the Sellers.

2.5. The approximate date of the beginning of the erection work is April, 1985

The Buyers will inform the Sellers additionally of the exact date of the beginning of erection. The Sellers undertake to send their specialists by the time specified by the Buyers and inform the Buyers of the date of the specialists' arrival in the USSR stating the flight (train) number as soon as possible, but not later than 5 days before the date of their departure.

2.6. The Sellers' specialist or the chief of a group of specialists is an official representative of the Sellers on the project site in the Buyers' country and is to be authorized to settle with the Buyers or the Buyers' representatives on the project site all the problems which may arise in the course of erection, setting up and putting the equipment into operation.

3.

3. For accomplishment of the above mentioned work the Buyers will pay:

3.1. Reimbursement of the Sellers' expenses connected with sending their specialists:

3.1.1.	for <u>engineer</u>	per month	<u>£ 3000</u>
3.1.2.	for	per month	
3.1.3.	for	per month	
3.1.4.	for	per month	
3.1.5.	for	per month	

Reimbursement for incomplete month's work of the specialists will be made on the daily basis of 1/30th of the above rates per each calendar day.

3.2. The daily allowance in Soviet roubles for living expenses (meals included) of the Sellers' specialists during their stay in the USSR:

3.2.1.	for <u>engineer</u>	per day	<u>15 roubles</u>
3.2.2.	for	per day	
3.2.3.	for	per day	
3.2.4.	for	per day	
3.2.5.	for	per day	

3.3. Reimbursement of the sums stipulated by clauses 3.1, 3.2. will be effected from the day of the specialists' entry into the USSR up to the day of their return to the Sellers' country.

The dates of the specialists' entry and return are understood to be the dates of their crossing the Soviet state border.

The day of the specialists' entry and the day of their departure from the USSR are considered together as one day.

3.4. Reimbursement specified in 3.1. of the present Appendix will be made by the Buyers to the Sellers every month in Pounds St. (currency) through the Bank for Foreign Trade of the USSR, Moscow, to the account of Midland Bank Ltd., Broad Street, Worcester, England

within 30 days after receipt by the Buyers in Moscow of the Sellers' invoices in triplicate with an attached document confirming the services of the Sellers' specialists for a certain period of time signed by the Buyers' and the Sellers' representatives on the project site.

The sums indicated in 3.2. of the present Appendix are to be paid in roubles to the Sellers' specialists through the chief of the group of specialists directly on the project site.

3.5. In addition to the above expenses the Buyers are to pay:

3.5.1. The cost of the specialists' travel tickets from the Sellers' country to the project site in the Buyers' country (through or international service) and back, when definitely returning to the Sellers' country by rail — 2nd class (sleeping car) or by air — tourist class, including the cost of luggage up to 80 kg by rail or up to 20 kg by air in excess of those included in the ticket for each specialist. Payment is to be effected against the documents, confirming the actual expenses.

The return tickets and those from Moscow to the project site are to be obtained by the Buyers and handed over to the Sellers' specialists.

3.5.2. The cost of transportation of installation tools according to the specification to be presented by the Sellers and by means of transportation agreed upon with the Buyers;

3.5.3. Taxes charged in the USSR.

4.

4.1. The Buyers will provide the Sellers' specialists free of charge for the time of their stay with furnished hotel accommodation as well as with transportation facilities (car or bus) to reach the working site if the distance exceeds 2 kilometers and a suitable private office, which can be locked, on the project site. When in Moscow for fulfillment of commitments as per present Appendix the Buyers will provide them with hotel accommodation as well as pay daily allowances according to 3.2. of the present Appendix.

5.

5.1. The normal working hours for the Sellers' specialists will be 41 hours a week, a working week being of six or five days.

5.2. The beginning of working days for the Sellers' specialists is to be fixed by the Buyers but not earlier than at 7 o'clock, local time.

5.3. Only official holidays of the Buyers' country as well as a weekly rest day or days defined on the erection site are non-working days.

5.4. Working overtime is the time spent by the specialists for work in excess of 41 hours a week.

5.5. For overtime work the Sellers' specialists will get extra pay in addition to that indicated in 3.2. as follows:

5.5.1. Overtime work done after the end of the normal working day till 10 p.m. — 25%.

5.5.2. Overtime work at night hours from 10 p.m. to 6 a.m., on rest days and holidays — 50%.

Extra pay for overtime work is not applied to the payments called for in clause 3.1.

5.6. The number of working hours is to be stated in daily working records which are issued in 3 copies (2 — for the Buyers and one for the Sellers) and signed by the representatives of both Parties.



3.

5.7. The time spent by the Sellers' specialists for reaching the site and back is not considered as a part of their working time if it does not exceed an hour and a half.

5.8. The time spent by the Sellers' specialists on elimination of defects on the project site which appeared through no fault of the Buyers and were detected during the erection is not to be reimbursed by the Buyers.

5.9. On the project site the Sellers' specialists shall keep to the safety rules governing the type of erection work performed by them in order to prevent from creating dangerous conditions both for themselves and for their associates.

6.

6.1. The Buyers' and the Sellers' representatives jointly work out a schedule of erection, setting up and putting into operation.

6.2. In the course of erection work all the main units of equipment are to be thoroughly inspected and the results of the inspection are to be stated in a report signed by the Buyers' and the Sellers' representatives on the project site.

The report is to point out exact description of the defects, if any, their causes and remedies as well as which Party is responsible for the defects.

6.3. For the period of erection, setting up and putting into operation on the project site the Buyers at their own expense provide the specialists with the services of an interpreter. The erection work is to be performed by the Buyers' personnel and with materials provided by the Buyers under supervision of the Sellers' specialists.

The Sellers are to provide their specialists with overalls, protective means as well as special tools and instruments.

6.4. In the process of installation, testing and putting the equipment into operation the performance data of the main units of equipment and the progress of erection work are to be recorded in a daily log which is to be signed by the Buyers' and the Sellers' representatives on the project site.

6.5. After completion of the erection and setting up a report stating the readiness of the equipment for final tests and putting into operation is to be prepared and signed by the representatives of both Parties.

The report is to point out the quality of the erection work performed covering the entire equipment or, if necessary, any part of it.

6.6. The final tests of the equipment are to be carried out in accordance with the programme agreed upon by the Buyers' and the Sellers' representatives as per technical requirements of the Contract.

6.7. The erection work is considered to be completed after the equipment has been installed, tested and put into operation and all the capacities guaranteed in the Contract have been reached and that is to be stated in the "Report on the final tests and putting the equipment into operation".

6.8. Carrying out installation, setting up, tests and putting the equipment into operation by the Sellers' specialists does not release the Sellers from the guarantees under the Contract.

6.9. If try-out parts are required for setting up of the equipment, their quantity must not exceed 15—20% of the total quantity of try-out parts necessary for the final tests.

7.

7.1. The Sellers at their own expense insure their specialists in compliance with the laws of their country in case of their sickness or any accident during their stay in the USSR.

The Buyers may at the Sellers' request and expense insure their specialists with the Ingosstrakh of the USSR, in conformity with the rules of insurance of the Ingosstrakh against accidents.

7.2. In case of sickness or accident during the stay of the Sellers' specialists in the USSR, the Buyers shall provide free of charge prompt medical care for a specialist suffering from sickness or accident and for 30 days of the sick leave the daily allowance in roubles only, as per 3.2 of the present Appendix. Should such circumstances arise, the Sellers shall take all necessary steps so that the erection work could not be delayed on the sector of the specialist suffering from sickness or accident for the reasons of such sickness or accident.

7.3. In case the specialist is incapacitated due to sickness or accident for more than 30 days, the Sellers should recall the said specialist back to their country or have him treated and kept at their own expense up to the moment when it is possible to transport the incapacitated specialist to his country and at the Buyers' request to send urgently a new specialist to replace him.

7.4. In case the Sellers recall their specialists for reasons beyond the Buyers' control before the expiration of the period agreed upon by the Parties, all charges connected with the specialists' return and replacement are to be paid by the Sellers.

4.

7.5. In case of sickness or death of the Sellers' specialists the Buyers will bear no other expenses except for those specified in 7.2. of the present Appendix.

8.

The Sellers are responsible for:

8.1. Proper detection and elimination of all defects in the equipment in the process of erection work.

8.2. Fulfilment of their obligations on proper installation in due time, putting into operation, performance of the tests of the installed equipment in conformity with the accepted programme and schedule of installation and putting the equipment into operation.

8.3. Proper and high quality execution of all works under Par. I of the present Appendix.

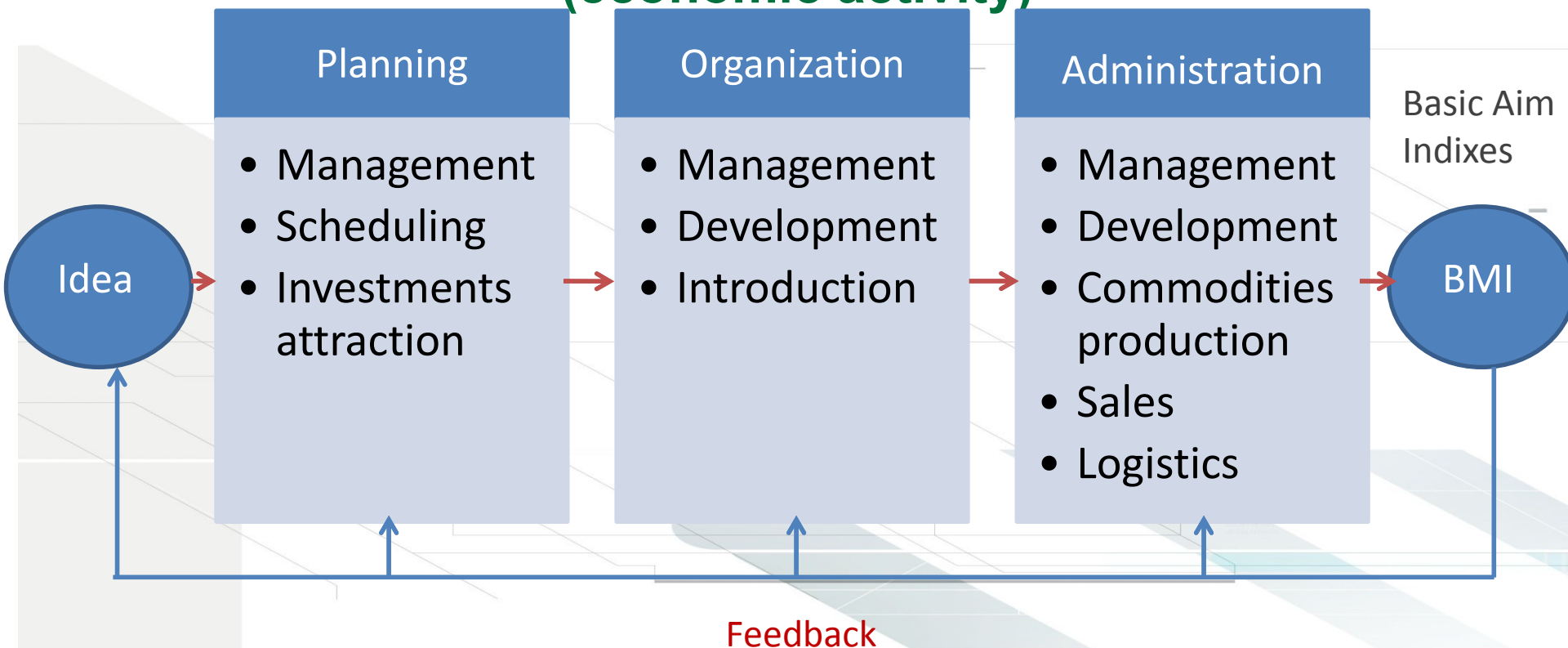
The Sellers guarantee the correctness of technical instructions and advice given by their specialists in connection with the execution of the above work.

THE BUYERS
V/O "AVTOPROMIMPORT"

THE SELLERS
FROUDE ENGINEERING LTD.



Stages of the business development (economic activity)





Complex support of the international projects





Role of a technology export for modern business development



Russian - Indian project of the cryogenic upper stage for Indian middle weight class Launch Vehicle (LV)





Macroenvironment conditions:

USSR (Russia):

1. Support of countries and regions including Republic of India .
2. High level development of space technologies (reasons are «arms race», space competition versus U.S.).
3. High level engineering skills (occupational prestige, USSR border were closed). –
4. Intensive mastering of new space technologies (unlimited state financing).

India:

1. Low level of industrialization.
2. Lack of specialists in space field and other industries.
3. “Indian entry into space” – part of a national idea and national security system (including nuclear weapons).

in the framework of bilateral cooperation Russia - India:

- Huge goods turnover (including military-technical cooperation);
- Strategic partnership in other spheres.



General project description:

Development in the interests of the Republic of India the Launch Vehicle (LV) for geostationary orbit (GSO)) flight, including:

- Collaboration of LV production;
- Technology transfer of cryogenic upper stage (oxygen-hydrogen);
- Collaboration of space center construction and equipping;
- Consultations for building of a ground test facilities;
- Production development of cryogenic upper stage ;
- Personnel training;
- Participation in preparation and implementation for launches .





Project stages:

1. 1985-1990 - Idea, project forming, signing contract and partial its implementation of the technology transfer to Indian side.
2. 1991-2010 – project revision, refusal of the technology transfer under the pressure of USA within the International Missile Technology Control Regime, signing contract for supply of Cryogenic Upper Stage with services, 6 LV launches with Russian Cryogenic Upper Stage with services since 2001.
1. 2011-2014 – Indian self-dependence attempts to launch LV with Indian cryogenic speeding-up block. First successful national launch succeed in the beginning of 2014.





Planning results of the project for sides:

USSR (Russia):

1. Strengthening the political, economic and technical relationship between Russia and India.
2. Maintains “Soviet Projecting School”, using of Russian space components and subsystems for Indian space projects, participation in National Space Program development and also in large Indian space projects.
3. Indian investments for creation of Russian prospective next generation Cryogenic Upper Stage that helps to update LV «Soyuz», LV «Proton», etc.





Planning results of the project for sides:

India:

1. Creation of national LV with payload to geostationary orbit.
2. Organizing Engineering Centre, ready for building own space projects;
3. Organizing own space industry, ready for complete work package from start to finish including tests of LV.



As a result of great political changes in the planning 1990s the project accomplishments were not all achieved. For eight years created and advanced unique technology of Cryogenic Upper Stage was not required in Russian space industry for a long time. But today it couldn't be useful completely because it is obsolete and outdated.

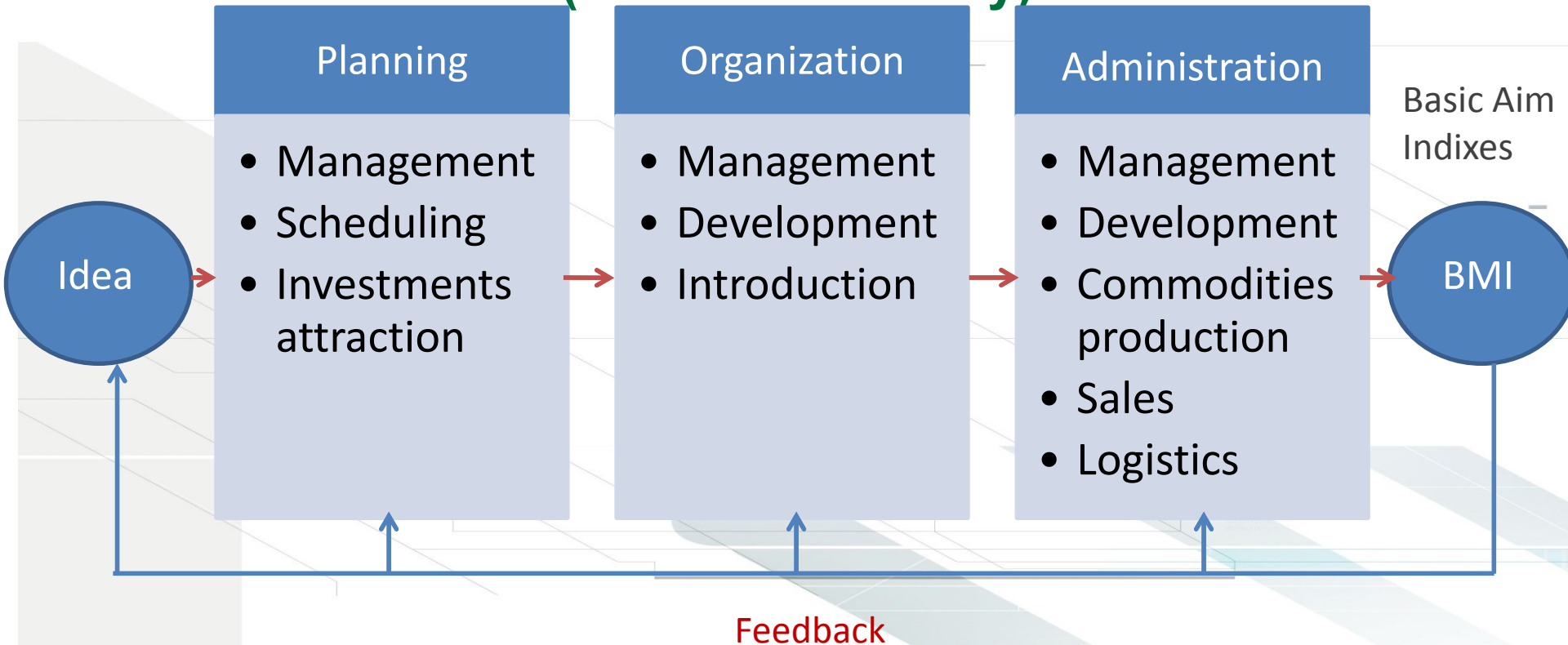


Summary:

- **High-tech sensitive projects to be realized under State Bodies Control**
- **Liabe to political risks**
- **Contribute to strengthen the relationship between countries over a long period of time**
- **Long-term projects take strategy adjustment over the all realization stages**



Stages of the business development (economic activity)





Team role-playing game

Cast:

Team - representatives: authorities of Russian Federation, Russian business, authorities of foreign countries (USA, Germany, China), foreign business.

Point: light helicopter production and business management.

Input: Russian entrepreneurs have elaboration and technologies for light helicopter production.

Production capacity: up to 10 000 vehicles a year, **average price of 1 item** - 150 000\$;

expected sales: Russia - more than 1000 (in case of legislative support), China – 800, USA – 400, Germany – 200;

costs of production of 1 item (from 1000 items/year): 30 000\$ without salary, **costs of the**

planning: 15000 rus.per.months (duration 2 years), **costs of the production development:**

15000 rus.per.months (3 years), **equipment:** 200 million \$, **live (circulating) capital:** 70% of turnover; **number of staff:** 2000 pers., **average wage:** Russia – 50 000 rub., China – 25,000 rub., USA – 65 000 rub, Germany – 70 000 rub;

taxes rates: Russia – 45%, China – 50% , USA – 50%, Germany – 55%; **credit interest rates:** Russia – 10%, China – 6% , USA – 3%, Germany – 4%.

Task: Elaborate the structure of future business in cooperation with representatives of the States and foreign partners. Substantiate the proposed solution for each side.



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