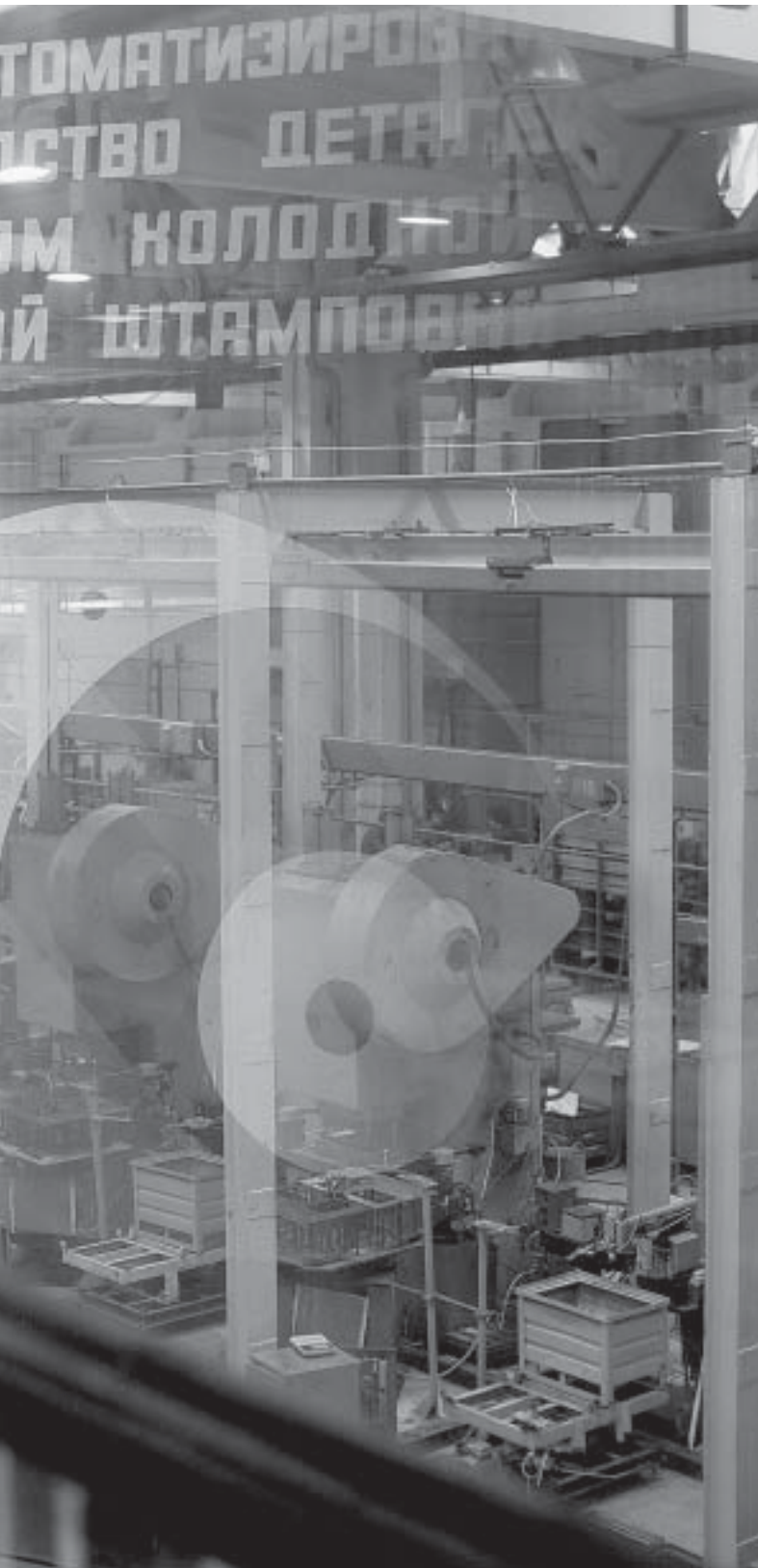




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brief 19

Assisting Conversion and Company Restructuring in Moldova

A Tacis-funded Project

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Former defense enterprise Alpha and its conversion product
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Assisting Conversion and Company Restructuring in Moldova

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Ksenia Gonchar and Thilo Roetger

october 2001

Zusammenfassung

German Summary

Dieser *brief* präsentiert eine Fallstudie des TACIS (Technical Assistance for the Commonwealth of Independent States) Projekts, das zwischen 1998 und 2000 in Moldawien von einem Team von Experten, geleitet von Mitarbeitern des Internationalen Konversionszentrums Bonn (BICC), durchgeführt wurde.

Das von der EU 1991 initiierte TACIS Programm stellt finanzielle Mittel zur technischen Hilfe für dreizehn Länder aus Osteuropa und Zentralasien, einschließlich Moldawiens, zur Verfügung und zielt hauptsächlich darauf ab, den Transformationsprozess in diesen Ländern zu fördern. Die finanziellen Mittel des TACIS Programms sind vor allem für folgende Bereiche vorgesehen:

- Institutionelle, administrative und legislative Reform,
- Entwicklung des privaten Sektors,
- Konsequenzen aus Änderungen gesellschaftlicher Strukturen, wie z.B. infrastrukturelle Netzwerke,
- Umweltschutz,
- Landwirtschaft und
- Nukleare Sicherheit.

Unter der Federführung des BICC wurden drei kleine moldawische Firmen, die aus der Rüstungsindustrie ausgegliedert worden waren, in ihrem Umstrukturierungsprozess begleitet. Die Unterstützung, die vertraglich zwischen den Partnerorganisationen und TACIS vereinbart worden war, bezog sich vor allem auf die Neustrukturierung der Unternehmen in ein Joint

Venture. Aus ihren sich ergänzenden Fähigkeiten und Anlagevermögen sollten Synergieeffekte entstehen. Unter marktwirtschaftlichen Bedingungen sollten Wettbewerbsvorteile erkannt und genutzt sowie neues Know-how erworben werden. AFN, der wichtigste Partner in diesem Joint Venture, ist ein innovatives Unternehmen mit achtzehn festen Mitarbeitern. Es ist auf "Product-Reengineering", d.h. die zivile Anwendung von Designs aus der Rüstungsindustrie, sowie auf Software im Bereich der Automobilelektronik und Messtechnik spezialisiert. Die Mitarbeiter kommen hauptsächlich aus dem Polytechnischen Institut, einem Zusammenschluss von weiterbildungs- und rüstungsorientierten Forschungs- und Entwicklungseinrichtungen. Endprodukt der geförderten Konversionsmaßnahme sollte ein Gerät zum Testen von Automotoren sein.

BICC stellte ein Konsortium aus fünf Organisationen zusammen, das bei der Ausschreibung des Projektes Anfang 1998 unter vier weiteren Mitbewerbern ausgewählt wurde. Schon der Anfang des Projekts war von Schwierigkeiten begleitet, da das Team des BICC noch vor Beginn seine Ziele neu definieren musste. Grund hierfür waren Veränderungen des makroökonomischen Umfelds, neu entstandene administrative und rechtliche Probleme in Moldawien sowie die Tatsache, dass zwei der drei Unternehmen, die zur Umstrukturierung vorgesehen waren, ihr Interesse an dem Joint Venture verloren hatten. Auch traten technische Probleme beim Bau des Motortestgeräts auf. Schließlich wurde der Schwerpunkt des Projektes im Unternehmen AFN angesiedelt, während die anderen zwei Partner auf eigenen Wunsch nur in reduziertem Maße aktiv wurden. Daher berichtet dieser *brief* vor allem über Aktivitäten zur Unterstützung des Unternehmens AFN.

Das Programm für AFN umfasste nicht nur die finanzielle und wirtschaftliche Prüfung des Unternehmens, sondern auch seine ausführliche technische und technologische Bewertung. Darüber hinaus wurde nicht nur für das Motortestgerät, sondern auch für einige weitere erfolgversprechende Produkte eine Marktanalyse durchgeführt. Der Bereich der Software-Technik, ohnehin ein Schwerpunkt von AFN, sollte durch zusätzliche Qualifizierungsmaßnahmen und die Anschaffung weiterer Computerarbeitsplätze gefördert sollte. Da das BICC Team davon ausging, dass die Entwicklung des Unternehmens besonders von Joint Ventures mit ausländischen Firmen profitieren würde, engagierte es sich stark bei der Präsentation von AFN und seinen Produkten im Westen und versuchte Kontakte zu deutschen Unternehmen zu knüpfen.

Vor dem Hintergrund der Restrukturierung der moldawischen Industrie hatte dieses Projekt zur Konversion der Rüstungsindustrie Modellcharakter: Es zeigte, wie ein Unternehmen, das aus ehemaligen Angestellten von Forschungsorganisationen für die Rüstungsindustrie besteht und von ihnen geleitet wurde, nach der Umstellung von Rüstungs- auf Zivilproduktion weiterarbeiten kann. Trotz des extrem ungünstigen Geschäftsumfeldes in Moldawien hat das TACIS Projekt dem Unternehmen geholfen, neue Fähigkeiten, Technologien und Geschäftspraktiken zu entwickeln und sich selbständig in die exportorientierte Wertschöpfungskette einzubringen. Die Hilfestellungen des BICC Teams gingen dabei weit über das klassische Consulting hinaus. So musste mit großer Flexibilität auf immer neue Herausforderungen und Bedürfnisse eines Unternehmens reagiert werden, das unter höchst unsicheren politischen und wirtschaftlichen Umständen operiert.

In diesem *brief* werden die Erfahrungen, die von AFN und BICC in einem kontinuierlichen Lernprozess von der Gründung des Joint Venture bis zum Aufbau neuer Netzwerke gemacht wurden, beschrieben und erörtert. Das Fazit lautet: Methoden und Ansatz des Projekts können – bei allen Schwierigkeiten – zur Nachahmung empfohlen werden. Doch es ist ein Unterschied, Plan- und Handlungsempfehlungen zu erarbeiten oder diese auch erfolgreich umzusetzen und die Existenz eines Unternehmens langfristig zu sichern. Deshalb hat das BICC Team das Unternehmen etwa ein Jahr nach Beendigung des Projekts besucht, um zu prüfen, was sich bewährt hat und was verworfen werden musste.

Es gab keine einfachen Antworten auf die Fragen und Probleme, die während und nach der Implementierung des TACIS Projekts auftauchten. Eine Reihe von Erfahrungen kann das BICC Team jedoch hervorheben:

1. Viele Schwierigkeiten auf der Mikroebene sind auf die Rahmenbedingungen im Land selbst zurückzuführen. Dazu gehören der allgemeine Stand der Industrialisierung und die Betriebsorganisation, die Abhängigkeit vom Rüstungssektor, zusammengebrochene Nachfragesstrukturen sowie ein Ungleichgewicht im Verhältnis zwischen Staat und Wirtschaft.
2. Die Fähigkeit, schneller als die Konkurrenz zu lernen und sich anzupassen, ist der wichtigste und nachhaltigste Vorteil im Übergangsprozess und im Krisenmanagement.
3. Die Rolle des Förderers und Katalysators während des Restrukturierungsprozesses sollte am besten von außenstehenden Beratern übernommen werden. So können sich die Erkenntnisse der Geförderten mit den Erfahrungen der Experten aus dem Westen mischen.
4. Manche Prozesse entwickeln sich erst in Langzeitwirkung. So war die erste Reaktion der Geschäftsleitung auf Vorschläge des Teams oft höflich aber unbestimmt; es wurde weder nachgehakt noch gab es ein Feedback. Daraus hätte man schließen können, dass die Vorschläge des Teams nach Auffassung des Unternehmens nicht auf die wirtschaftliche Realität Moldawiens übertragbar seien. Bei seiner Rückkehr nach Moldawien stellte das BICC Team jedoch fest, dass – entgegen diesem ersten Eindruck – seine Ratschläge sehr ernst genommen und gut in die Unternehmenspolitik eingebunden worden waren.
5. Die Wahl der Partner vor Ort und der Vertragsparteien sowie ihre Arbeitsorganisation ist entscheidend für Erfolg oder Misserfolg. AFN erwies sich als sehr engagierter, aktiver und kooperativer Partner mit großen Lernkapazitäten, hoher Flexibilität und Anpassungsfähigkeit.
6. Ein wichtiger Aspekt der Hilfestellung sollte schließlich auch die Stärkung der Rechtsstaatlichkeit sein. Die Gesellschaft sollte dazu ermuntert werden, sich an ihre Gesetze zu halten – auch im Hinblick auf bessere Beziehungen zwischen Staat und Wirtschaft. Noch werden Geschäfte auf dem “grauen Markt” generell als natürliche Reaktion auf sogenannte “Belästigungen durch den Staat” angesehen sowie gewisse Verstöße gegen das Gesetz unter den verschärften Bedingungen des Wandels als unvermeidlich bewertet. Dennoch muss absolut klar bleiben, dass ein solches Verhalten nicht die Basis einer langfristigen Entwicklung eines Unternehmens sein kann.

Als das unabhängige Kontrollorgan des TACIS Programms das Projekt bewertete, gab es ihm die besten Noten, wesentlich besser als die anderer Projekte im Bereich der technischen Hilfe in Moldawien. Das gemeinschaftliche Projekt zeigt, dass sich AFN mit dem jüngsten strategischen Unternehmensplan der Herausforderung, sich in ein strukturiertes, marktgesteuertes Unternehmen umzuwandeln, erfolgreich gestellt hat.

Introduction

This *brief* presents a case study of the Tacis (Technical assistance to CIS countries) project carried out in Moldova between 1998 and 2000 by a team of European experts headed by staff from the Bonn International Center for Conversion (BICC). Launched by the European Community (EC) in 1991, the Tacis Programme provides grant-financed technical assistance to 13 countries in Eastern Europe and Central Asia, including Moldova, and mainly aims at enhancing the transition process in these countries. Between 1991 and 1999, •4,226 million were committed through the Tacis Programme, while an additional •3,138 million in Tacis

budget will be committed for the period 2000–2006 (Tacis Coordinating Unit in Moldova). Once agreed by the Member States, technical assistance projects are put out to tender. Organizations from the European Union (EU) as well as accession countries are selected to implement projects, transferring their know-how to beneficiaries. (For details on the Moldovan branch of the Tacis Programme, see Box 1.)

Tacis grants focus on the following areas:

- Institutional, legal and administrative reform
- Economic and private sector development
- Consequences of changes in society including infrastructural networks
- Environmental protection
- Rural economies
- Nuclear safety.

Box 1: The EU's relations with Moldova

The Partnership and Cooperation Agreement (PCA) signed on 28 November 1994 between Moldova and the EU and its Member States entered into force on 1 July 1998 and forms the basis of EU-Moldova relations. The PCA covers many areas including political dialogue, trade and economic cooperation as well as environment, justice and home affairs, science and culture. The responsibility for political dialogue and cooperation lies with the Cooperation Council formed by members of the Council of the European Union and the Commission and by members of the Moldovan government. More technical issues are dealt with by the Cooperation Committee, which is supported by subcommittees specializing in specific sectors. Furthermore, a Parliamentary Cooperation Committee has been established from members of the European and Moldovan Parliaments. Such bodies meet on average once a year.

The EU is an important trading partner for Moldova: as of September 2000, 22.9 percent of Moldovan exports went to EU countries while 27.7 percent of imports came from the EU. However, with the exception of a slight improvement in 1999, Moldova's trade balance with the EU has been growing increasingly negative. The deficits recorded were US \$198.3 million in 1998, US \$58 million in 1999 and US \$75.6 million by the fall of 2000. The deceleration in 1999 was due to a decrease in imports from the EU following a strong depreciation of the Moldovan leu after the 1998 Russian financial crisis. Moldova's main exports to the EU are agricultural and food products, textiles and base metals; its main imports from the EU are machinery, electrical products, agricultural products and textiles.

Moldova benefits from the EC General Preference System (GSP). Most Moldovan exports to the EU within the framework of the GSP fall under the categories "very sensitive" (15 percent reduction of customs duties) and "sensitive" (30 percent reduction of customs duties). However, since 2000, Moldova has benefited from additional reductions

of customs duties under the GSP thanks to an incentive scheme for countries which apply certain ILO (International Labour Organization) conventions. The Cooperation Council of 1998 agreed that priority should be given to Moldova's accession to the WTO (World Trade Organization) which is expected to take place in 2001. In the meantime, joint studies on the feasibility of an FTA (Free Trade Association) were undertaken and these came to the conclusion that the establishment of an FTA might bring benefits to Moldova, but that the Moldovan legal and administrative framework for business needed further improvement before such an FTA could be created.

EU assistance to Moldova is provided through various channels:

- **Technical assistance.** Over the 1991–1999 period, the Tacis program provided around ECU 70 million for Moldova, including national, multi-country and interstate programs. The Tacis priorities for 1996–1999 were focused on three areas: food production,

processing and distribution; private sector development; and human resources development. The 2000–2003 Indicative Programme includes the following priority sectors: institutional, legal and administrative reform; support for enterprises and assistance for economic development; and the social consequences of transition. The 2001 Action Programme has a budget of Euro 25 million.

■ **Macroeconomic assistance.**

Moldova has also benefited from balance of payment loans. The first of these was disbursed in two installments between 1994 and 1995 and amounted to ECU 45 million; the second was disbursed in December 1996 providing ECU 15 million. A third one of Euro 15 million is likely to be disbursed in 2001.

■ **Humanitarian assistance.**

In 1999, the EC allocated around Euro 4 million to Moldova for humanitarian action to be implemented by ECHO, the European Commission's Humanitarian Aid Office. These measures helped to tackle the social consequences of poverty. The actions concentrated on the supply of vaccines, medicines and food to children and the elderly. However, this aid is now being phased out, since ECHO is concentrating on crises linked to conflicts and natural catastrophes, whereas the Moldovan problems are of a structural nature.

■ **Food Security Programme.**

The Commission has started a new sector program with the objective of promoting long-term food security and poverty reduction in Moldova. This entails budgetary support for the Moldovan government in order to promote structural reforms in the agricultural and social sectors. The 2000 budget amounts to Euro 5.5 million as a grant.

Source: www.europa.eu.int/comm/external_relations/ceeca/tacis

In the case of the industrial restructuring project initially led by BICC together with ISA Consult, the beneficiaries were three small Moldovan companies with strong roots in the defense industry. Assistance as specified in the Terms of Reference (guidelines drafted jointly by the partner organizations and Tacis representatives) was expected to concentrate on restructuring the companies in the form of a joint venture aimed at the synergy of complementary skills and assets, identification and strengthening of competitive advantages, and acquisition of knowledge in the areas most relevant to small business development in the new market environment. AFN, the main partner organization, was a *de novo* innovative firm with 18 permanent employees. It specialized in product reengineering, the commercial application of designs originating from the parent defense enterprises, and software engineering in the fields of automobile electronics and measuring technologies. Its core conversion product intended for promotion was a device for testing car motors. Employees mostly came from the defense radio and electronic industries and the Polytechnic Institute, an organization of tertiary education and defense-related R&D. BICC formed a consortium comprised of five organizations (see Figure 1) and won the tender in early 1998 in competition with four other bidders.

However, the philosophy behind the project and its boundaries underwent significant changes even before the BICC team began implementation. A number of important new factors made changes necessary: shifts in the macroeconomic environment; newly emerged administrative and legal problems in Moldova; and a sudden lack of interest on the part of two of the three Moldovan companies which were to have been restructured via the joint venture. Furthermore, technical

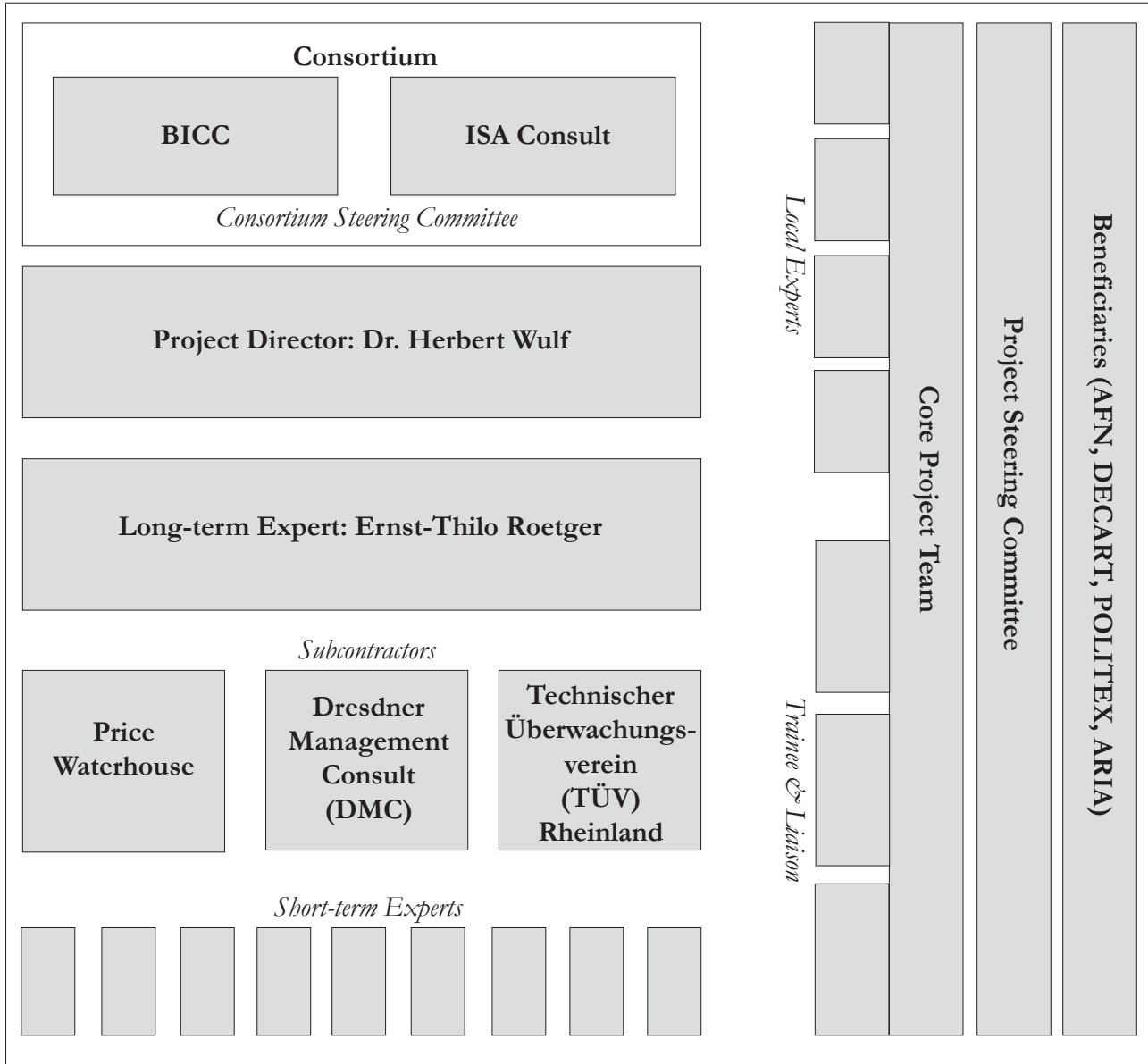
developments in the area of promotion of the motor-tester also necessitated modification of the project. As a result, the project moved its main focus to one beneficiary—AFN—while the other two partners were offered reduced assistance packages upon request. This report therefore chiefly describes activities revolving around this one main beneficiary.

In other areas, the BICC team expanded the program designed for AFN: an economic and financial audit of the company was complemented by comprehensive technical and technological assessment, business and strategic planning and enlarged market research not only for the motor-testing device, but also for some other products found to have greater market potential. Moreover, given that software engineering skills represented the significant core advantage of AFN, it was decided to promote development of skills in this area through additional training and acquisition of computer work stations. In addition, the BICC team ascertained that company development would benefit greatly from joint ventures with foreign firms. Therefore much effort was devoted to presenting AFN and its products to the West and to facilitating contacts with German companies.

In view of these challenging new tasks and the positive results achieved during project implementation, the original project with a duration of 12 months (May 1998 to April 1999) was prolonged twice: the first time by 3 months to July 1999 and the second time to March 2000.

Within the industrial restructuring program, the project fell under the category “defense conversion” and to a certain extent presents a model case of departure from military business by a company comprised of and managed by former employees from defense

Figure 1: Structure of the Project Team



research organizations. It will be shown below that—despite an extremely unfriendly business environment—the acquisition of new skills, technologies and business practices within the framework of the Tacis project contributed to a critical recombination of capabilities and incentives which has allowed the company to enter the viable export-oriented, value-added chain. In providing assistance, the BICC team went far beyond classical consulting practices, especially in responding with great flexibility to the newly emerged challenges and needs of a company operating in uncertain political and economic circumstances.

This *brief* describes and discusses experiences gained by AFN and BICC during restructuring through joint venture, the building up of networks and the continual learning process. It comes to the conclusion that the approach and techniques can well be recommended for dissemination. Moreover, as the BICC team was well aware that designing a plan/set of recommendations was one thing and successful implementation/long-term viability quite another, they revisited

the company about a year after project completion to see what had worked and what had not. An analysis by AFN itself of its new situation is also presented in this study (see Box 3).

Over the past decade, the consequences of economic liberalization and negative aggregate demand shock have profoundly affected Moldovan society. It is now one of the poorest republics among the newly emerged states of the former Soviet Union and is listed among the poorest countries of the world with a per capita GDP of less than US \$350. Moreover, Moldova is also one of the most troubled transition economies having failed to turn from decline to growth: from 1992 to 2000 GDP declined in total by three-quarters. The markets for wine and agricultural products—Moldova’s core areas of specialization in Soviet times—remained within Russia and were not restored after collapse in the early 1990s. The country has no fuel and energy resources; as a result the debt to the Russian natural gas monopoly Gazprom alone accounts for two annual Moldovan national budgets (Khisamov, 2001). Emigration of qualified personnel has reached a

critical level: some estimates rate the numbers of emigrated Moldovan workers in early 2001 at 800,000 (of 4.3 million inhabitants) (Interviews in Chisinau in January 2001). This is an enormous brain drain for a poor country, leading to a shortage of qualified personnel.

Political instability adds to the set of unfavorable macroeconomic factors influencing the Moldovan business environment. This small country with a population of 4.3 million people has been split: the Transdnistria region in the east broke away after a civil war and is now a separate—if unrecognized—republic hosting the most competitive industrial enterprises. Thus market reforms in Moldova have been rendered more difficult by a very unlucky combination of internal and external factors which exceeded the average shock-induced climate in other transition economies.

Box 2: Basic data on Moldova

Official name:	Republic of Moldova
Capital:	Chisinau
Size:	33,848 km ²
Neighboring countries:	Ukraine, Romania
Population:	4.43 million, of which 64.5% are Romanian-speaking Moldovans, 13.8% Ukrainians, 13% Russians, 3.5% Gagauz, 2% Bulgarians and 1.5% Jews
Currency:	Moldovan leu (exchange rate January 2001 US \$1 = 12.37 lei)
President:	Vladimir Voronin (since April 2001)

Source: *The World Factbook 2001*, www.cia.gov/cia/publications/factbook/

In these circumstances, the Tacis technical assistance program funded by the EU was expected to contribute to the establishment of a new democratic and economic order, easing transition shocks. AFN had been selected as a model case to test the potential of small and medium-sized enterprises (SMEs) separated from the defense sector to generate growth and jobs. The idea was to give support to their initial competitive advantages in the form of external technical assistance and, in addition, to see whether the Schumpeterian-type innovative entrepreneurship¹ in the high value-added sector in general could lead to sustainability under the tough economic conditions experienced in the Moldovan society in crisis.

Field work and desk studies carried out during project implementation, as well as data collected during an additional visit a year after the project had been completed, provided the sources of information for this report. The *brief* consists of four sections: the first addresses the general macroeconomic and political environment in Moldova and briefly presents AFN's background and starting position; the second discusses the project in detail; the third

provides a critical assessment of the company's position on the market once Tacis support had ceased; and the last draws conclusions on the lessons learned from this particular case of defense conversion. Needless to say this report was drafted with full respect for the commercial interests of AFN and the rules of confidentiality applying to Tacis projects.

We wish to thank AFN's managerial team for their support and encouragement with the report and for keeping up contact. The Tacis Coordinating Unit in Moldova should be also thanked for generous contributions of documentation, ideas and time.



Source: Map no. 3759 Rev.1, UNITED NATIONS, Department of Public Information, Cartographic Section

¹ Joseph Schumpeter—who conceptualized his theory at the beginning of the twentieth century—was the founder of a theory of economic development in which the entrepreneur plays the leading role with regard to innovations such as new products, new markets and new methods of business organization. When the entrepreneur's method is imitated, innovations come in clusters and cause a boom (Macmillan Dictionary of Modern Economics, 1992).

The Project Environment

The political situation

In the business climate of Moldova, two political problems are of major importance. The first is the tension related to the factual disintegration of the country. The second—the instability of the legal system and economic policy—is linked to the lack of political consensus on which reform path should be taken, along with the endless shifts in the configuration of governments and the ideology and economic concepts adopted.

The Transnistria problem emerged in the early 1990s leading to a bloody civil war and the establishment of the unrecognized Transnistria republic, which considers itself a separate legal entity. However the tension in relations between the Transnistria region and the rest of Moldova has significantly decreased since the cease-fire was agreed in mid-1992. Furthermore, most nationalistic politicians were removed from the Moldovan government in 1994 and confidence-building measures introduced (including force reductions and the reopening of shared infrastructure and some economic ties). The new constitution offered larger autonomy to Transnistria and the other problematic region of Gagausia. Nevertheless, the threat of renewed conflict still exists, and the consequences of disintegration and political instability continue to worsen the macroeconomic climate. The negative effects of trade and market split as well as the unfavorable geography of the conflict for Moldova are particularly strong: Transnistria hosts the most valuable part of Moldovan industry including energy-

generating facilities and pipelines as well as traditional clusters of commercial networks. Other problems, such as the stationing of around 2,600 Russian forces in Transnistria (including peacekeeping forces) and huge stocks of ammunition and equipment (left over from Cold War times) cannot be ignored.

Since independence in 1991, Moldova has gone through six electoral campaigns and has had ten different governments which sometimes represented polarized groups and coalitions. This naturally led to high uncertainty and sudden shifts in economic policy and thus prevented the development of legislation conducive to a positive economic development and a market-friendly climate, slowing down reforms in general. In February 2001—under pressure of growing poverty and crisis—power shifted to the Communist Party which won 71 of the 101 seats in parliament. Thus the Communist Party at present makes the key decisions such as electing the president, forming the government and introducing changes to the constitution. The political line taken by the new administration focuses on the reintroduction of economic and political links with Russia, reunification with the Transnistria republic and return of Russian as the official state language (Khisamov, 2001).

In contrast to many other international assistance projects, which deal with politically sensitive issues such as privatization of land, the BICC project was not directly affected by political instability or government intrusion: the main project partner, AFN, was a fully private, small-scale, *de novo* company, operating in a niche market of no strategic value to the state. However, indirect effects cannot be overlooked: it was difficult to get foreign

companies interested in collaborating with AFN because of the unfavorable climate for investment as well as the lack of business and personal security. Along with this, pressure from numerous regulating government bodies and changed rules for business operations created significant barriers to the translation of the positive impulses from the project into jobs, profit and expansion. On the positive side, however, the new Moldova had given up its traditional pattern of support for the defense industry, thus making it possible to use released resources—foremost qualified labor—for non-military purposes. This is how the AFN start-up company was created.

The macroeconomic environment

The Moldovan economic climate is usually described as being a tough macroeconomic environment, unfriendly to development and growth. For the purpose of this *brief*, several specific features need to be discussed as they directly or indirectly affected AFN's performance: economic conditions prior to reform; factors of the systemic crisis; the results of privatization; small business development; debt and energy problems; and conversion of the defense industry.

Conditions prior to reform

On the eve of reform in the 1990s, Moldova could be regarded as a predominantly agrarian republic with some industrial clusters located in the Transnistria region and in the capital, Chisinau. In the evaluation of its country strategy (Tacis, 2000), Tacis showed that, although Moldova accounted for less than 0.2 percent of the territory of the former Soviet Union, the republic produced 2.5 percent of the Soviet Union's agricultural output, including 40 percent of total output in wine. Agriculture still accounts for 30

Figure 2: Moldova's main economic indicators

Sources: Tacis, 2000, p. 11 (for data before 1998); Moldovan Economic Trends, 2000, April–June, pp. 9, 13, 17; Moldovan Economic Trends, 1999, July–September, p. 9

n.a. not applicable

	1992	1993	1994	1995	1996	1997	1998	1999
GDP in constant prices, <i>percentage change</i>	-29	-1	-31	-3	-8	1	-7	-4
Industrial output, <i>percentage change</i>	n.a.	0.3	-28	-4	-7	-7	-15	-9
Agricultural output, <i>percentage change</i>	n.a.	10	-24	4	-12	11	-12	-8
Employment, <i>percentage change</i>	-1	-18	-0.4	-1	-28	-1	-0.2	-
Registered unemployment, <i>percentage of labor force</i>	0.1	1	1	1	2	2	2	2
Consumer prices, <i>annual average</i>	1,276	789	330	30	24	12	8	39
Budget deficit as a share of GDP, in percent	n.a.	n.a.	n.a.	n.a.	n.a.	10	8	3
Current account balance, <i>US \$ million</i>	-39.0	-182.0	-82.0	-149.0	-256.0	-292.0	-323	-23
Trade balance, <i>US \$ million</i>	-37.0	-180.0	-54.0	-70.0	-254.0	-319.0	-388	-123
Foreign direct investment, net, US \$ million	17.0	14.0	18.0	73.0	56.0	64.0	100.0	n.a.
External debt, <i>US \$ million</i>	16.0	255.0	503.0	670.0	795.0	1,205.0	1,451.9	1,462.0

Note: These seemingly precise figures should be taken with caution in view of the relatively low transparency of the Moldovan economy, the high share of the shadow GDP, and confusion about the way official statistics treat output produced in the Transdnestrian republic. However, the trends indicated in this table are worth studying. Figures for unemployment represent the officially registered level, although surveys show much higher rates, for example 12.8 percent for 1998 and 10.5 percent for 1999. Figures have been rounded off.

percent of total GDP. Industrial production is concentrated on food processing (45 percent of total output, produced at 150 wineries, 130 fruit- and vegetable-processing plants and some 80 dairy and meat factories) and heavy industries (30 percent of total output: metallurgy, chemicals, energy production, etc.). The bulk of heavy industry and energy production is located in Transdnistria which—with 12.5 percent of the surface area and some 18 percent of population—accounts for about 40 percent of industrial output. All major commercial routes and energy pipelines to other former Soviet republics also pass through this disputed region. Structural imbalance added to location problems. A heavy focus on defense production was one of the typical features of the industry's structure with specialization in the radio, electronics and communication sectors at a subcontracting level. Oversized defense-oriented enterprises were particularly depressed by the demand shock of the early 1990s.

The transition crisis

Systemic reforms in Moldova were launched in the early 1990s with the liberalization of prices and trade, privatization of public property, and the drastic decline of government expenditures in line with the policy of macroeconomic stabilization. In Moldova however, this standard set of measures resulted in Moldova in the

most dramatic transition crisis of all transition economies (see Figure 2). Between 1991 and 1999, GDP decreased by three-quarters, and preliminary data indicate that the decline continued through the year 2000. The country accumulated a huge external debt and showed troubling trade and balance of payment indicators. Of the 600 industrial enterprises studied within the governmental survey of 2000, one third were idle, reporting complete insolvency (*Moldovan Economic Trends*, April–June 2000, p. 11). Poverty followed depression: the Household Budget Survey, completed in mid-2000 by the Department of Statistical and Sociological Analysis with the assistance of the World Bank, showed that the gross income of 79.3 percent of households was lower than the subsistence minimum, while some 20.7 percent were defined as “extremely poor” (World Bank and Moldovan Department of Statistical and Sociological Analysis, 2000).

Though the variety of factors which contributed to the current crisis is very large indeed, several points should be mentioned in particular: size of the market and, linked to this, aggregate demand decline and disintegration shock. One of the findings of geographical economics is that adverse shocks to economies are felt more

severely in smaller regions, especially those located far from major markets (Sutherland, 2000). The country's disintegration, its separation from the Russian market, and high barriers to entry into new markets contributed greatly to depressed demand. Erosion of human capital due to the huge out-migration of the most valuable labor resources—driven by unemployment, low real income and limited size of the local labor market—was also significant. Dependence on imports of energy and raw materials and chronic budget deficits made the country heavily indebted to Russian energy suppliers and international financial institutions. Further problems in Moldova included the shadow economy, corruption, inadequacy of structural reforms, and numerous government failures, though these latter difficulties can be seen in various different forms in all transition economies.

Privatization

Prior to financial and economic collapse, the general thought in Moldova was that privatization should be used as a means to facilitate active restructuring and the emergence of efficient owners and managers. Quantitative data shows that the state has indeed retired from economic activity and that the Moldovan economy has become predominantly private: as of 1 November 2000,

Figure 3: Enterprises in the Moldovan economy, as of mid-2000

Sources: Department of Statistical and Sociological Analysis, quoted in *Moldovan Economic Trends*, 2000, July–September, p. 69–70

	<i>Number of entities</i>	<i>Total number of employees</i>	<i>Financial results (profit or loss), million lei as of 1 June 2000</i>	<i>Share of loss-making entities, in percent</i>
<i>Large enterprises</i>	1,387	388,360	-373.3	57.7
<i>Small enterprises</i>	2,084	83,100	6.8	54.8
<i>Micro-enterprises</i>	16,943	67,700	67.4	45.1

193,400 economic actors were registered in Moldova, of whom 96.3 percent were private. However the share of industry in this number is only 6 percent, while agricultural entities represent 49 percent and commercial entities about 30 percent. The private sector produces 66 percent of GDP and 76 percent of jobs (*Ekonomicheskoye Obozreniye*, 1 December 2000, p. 7).

However, the results of privatization, as a rule, appear to have been estimated very pessimistically: most studies point at the fairly limited impact of privatization on economic performance, productivity and competitiveness (Takis, 2000; *Moldovan Economic Trends*, July–September 2000, p. 65). Among factors which caused privatization to be ineffective, the following should be mentioned: low accountability; weak managerial teams; insider control; heavily distorted financial markets; and the practical absence of capital markets. Despite high expectations vis-à-vis the active restructuring role of foreign capital and despite fairly liberal laws with respect to foreign investment, foreign investment was very scarce and played a minor role in privatization.

On the other hand, the performance of new small private companies, which emerged either as subsidiaries of larger privatized enterprises or as *de novo* companies, was an exception in the generally depressing picture of Moldovan privatization.

Small business development

Small business development can play many different roles in transition economies: it can prove to be a significant shock-absorbing mechanism, a generator of growth—or a weighty contributor to the shadow economy. Official statistics do not adequately record the output of small business. Nevertheless it is clear that the cumulative role of small businesses

in Moldova has been fairly positive, especially with respect to job creation and the accumulation of entrepreneurial skills.

The notion of small businesses in Moldova was introduced in the early 1990s. According to Moldovan law, entities are categorized as ‘small enterprises’ if they employ up to 75 people, while ‘micro-enterprises’ are those employing less than 20 people. Generally, small businesses in industry were spun off from larger state-owned companies or were created from scratch. Some studies of transition economies have shown that spun-off and *de novo* enterprises differ in economic behavior and access to resources: newly set up enterprises pick up market standards of behavior quickly and vividly show their ability to develop and expand, in contrast to spun-off enterprises with more traditional stereotypes of management (Dolgopyatova, 2000). According to official statistics, small and micro-enterprises employ 150,800 people, constituting 28 percent of total employment (*Moldovan Economic Trends*, July–September 2000, p. 69).

A survey of SMEs recently conducted by USAID’s NewBisNet project showed the growing role of SMEs in generating employment. However, only 1.2 percent of enterprises reviewed had been engaged in industrial production (*Moldovan Economic Trends*, April–June 2000, p. 16). Another survey reported that, in 2000, micro-enterprises—mainly active in trade and manufacturing—exhibited the best performance among all entities.

Most small companies had to fight for survival and the outcome depended very much on the qualities of the entrepreneur, especially his or her abilities to deal with the lack of access to formal sources of financing and to resist excessive state intrusion.

High interest rates and demanding collateral requirements prevent SMEs from borrowing for investment or liquidity purposes. In turn, banks are reluctant to lend to industry mainly due to microeconomic barriers—especially the lack of transparency in company finances—and because of legislation unfavorable to creditors. Moreover, the banking system itself is too weak and does not have enough skills and financial instruments to deal with SMEs. As a rule, managers of small enterprises rely on their own savings and credits from friends, relatives and clients as their main sources of finance—a road which often leads to underreporting, double bookkeeping and a strong focus on shadow operations.

Another problem is excessive state intrusion, which one of the participants at the international conference on Moldovan economic problems in Chisinau called “harassment of small business by the Ministry of Finance and other inspectors” (*Moldovan Economic Trends*, April–July 2000, p. 4). Poor tax collection and the high budgetary burden of social obligations, in addition to the long-lasting depression, have forced the government to introduce new taxes and abandon rents adopted earlier for new start-ups. As a result, the business climate for SMEs has significantly worsened in recent years.

Debt and energy problems

Liberalization reforms resulted in an opening up of the economy, which—in the Moldovan case—was fairly extreme, with total external trade (imports and exports) accounting for 130–180 percent of GDP (Takis, 2000). However, this level was reached mainly due to the import of fuel and energy resources and raw materials from Russia that was not compensated for by the modest exports of food and wine which were not competitive on either the Russian or the highly

protected Western European markets. Thus imports were mainly funded at the expense of external debt, while the annual negative trade balance in worst years exceeded US \$300 million (see Figure 2). As of 1999, external debt was estimated to account for US \$1,462 million—three-quarters of the country's GDP. Debts-for-equity swaps between Russian creditors and the Moldovan government in the consolidated gas industry, privatization of electricity distribution facilities, and energy-saving measures were introduced.

All these measures had a direct impact on small businesses in Moldova, including AFN. On the one hand, the energy crisis opened up the market for energy-saving technologies and products, in which AFN had developed strong competitive skills. On the other hand, these markets immediately faced competition from larger foreign companies which offered ready-available products, supplied through the use of financial and institutional instruments inaccessible to small domestic firms.

Moldova is indebted to international financial institutions and has become dependent upon them as regards choice of economic policies. For example, the World Bank has conditioned the renewal of its funding to the following criteria: first, the public budget must be agreed on and approved by the International Monetary Fund; second, electricity distribution enterprises and thermal-electric power stations are to be privatized. Thirdly, the privatization of tobacco and wine enterprises as well as land reforms are to be pushed (*Moldovan Economic Trends*, July–September 2000).

Conversion of the defense industry

The dismantling of the Soviet Union and its huge military machine left the defense enterprises located in Moldova

without orders, a mission or perspectives for development. In spite of the availability of relatively high core skills, technologies and innovation infrastructure (especially links between higher education and industrial R&D), initial conditions for reform in the defense industry were unfavorable: the demand shock came too fast and was too severe. In spite of the dual character of the industries (radio, electronics and communication equipment), civilian manufacturing at military enterprises was not competitive even on the domestic market. As a rule factories produced only a small fragment of the value chain and were separated from sale of the end product. Conversion was also inhibited by microeconomic problems: oversized entities had costly social assets, inadequate management and resource constraints.

To solve the problems of the defense industry, several approaches were tested, including privatization, reconfiguration of assets in the form of consolidation, offers to foreign investors, reestablishment of links with the Russian defense complex both in the civilian and military markets and, finally, bankruptcy. So far, the results of these experiments have shown that not much can be done to help large defense enterprises in the depressed Moldovan market: the majority of them have failed to adapt to the civilian market and have become a source of losses and high unemployment. For instance, the holding Konversia was established in 1998 to support former defense enterprises from the radio electronic industry, including Topaz, Mezon, Sigma, Reut, RIF, Micron, Eliri, and Kvant. Unfortunately, vertical integration did not achieve the expected results, and the holding was dismantled in late 2000. The former participants of the holding have since been subjected to various different restructuring measures 'from above' (*Ekonomicheskoye Obozreniye*, 18 August 2000, p. 2, 22 December 2000, p. 14).

In contrast to failures in consolidation, other strategies proved to be more successful. For example, Topaz managed to survive and escape bankruptcy by shifting to the new market with a relatively simple, export-oriented product (press forms for plastic components). In addition Topaz also entered into several joint ventures with Russian defense companies in various different civilian fields, including a project for (crop-protecting) anti-hail systems with the Russian Motovilikhinskiye Zavodi and Iskra and the manufacture of incubators for newly born babies jointly with the Ural Mechanical Plant from Ekaterinburg.

Restructuring through bankruptcy and the further creation of new businesses using assets from defense enterprises also brought some promising results. For instance, industrial parks were established on the sites of the bankrupted enterprises Alpha, Micron and Spektru. The Alpha site alone currently hosts 80 enterprises, which created 1,700 jobs. Spektru hosts 30 enterprises with 400 jobs (*Ekonomicheskoye Obozreniye*, 6 October 2000, p. 14). Most of the start-ups within the industrial parks obtained assets of the former defense enterprises through buy-out financial leasing schemes.

To sum up, defense conversion in Moldova required fundamental changes in the boundaries, organization, management and input-output mix of enterprises far beyond expected adjustment and resource reallocation. The productive use of the positive assets which had been freed was generally more successful in the case of new start-ups, spin-offs and other forms of new commercial entities than in the case of established traditional enterprises.

AFN company profile

AFN dates back to 1989, when three engineers from the Kvant defense research institute launched their own business. They used the conversion pattern, relatively typical of the late-Gorbachev era: following political and economic liberalization and a clear signal from the government that commercial entrepreneurship would no longer be punished, they spun off an innovative business unit, hoping to commercialize their professional skills in designing automatic guidance systems for atomic submarines as well as some dual-use technologies from the parent organization. For instance, one of the first development contracts awarded to AFN by the military enterprise Mezon was in diffusion kiln design. Another large-scale, two-year contract in computer design was awarded by the Siberian subdivision of the Soviet Academy of Sciences. Though the commercial results of these projects were relatively modest, they helped the *de novo* company acquire significant knowledge and raise initial capital (see the company web site www.afn.mldnet.com for details).

After the Soviet Union collapsed, AFN redirected its business strategy: by increased outsourcing of standardized electronic components, it significantly increased quality, while strengthening its core advantage in design, reengineering, low-cost upgrading and manufacturing. For example, one of the first purely commercial products of the company was the technically advanced *Spider* carpet-designing machine, which was marketed and sold to practically all carpet-making factories in Moldova and some other countries of the former Soviet Union. Good sales performance permitted AFN to invest further in its own premises.

Other projects were less successful, though failures also taught important lessons. For instance, AFN failed to sell enough television studio mixers, though the knowledge of how to develop standard programs and utilities was later applied to other projects.

In early 1995, AFN decided to enter the automobile electronics and the automobile diagnostics industry. The first product in this range was the octane-corrector, which automatically adjusts the ignition lead angle to avoid knock operations. The second was the *Navigator* for testing motors: this device provided a full diagnosis of engine and automobile electronics and—due to the technical database integrated into the diagnosis software—could be applied to all models of car. It was this product which was chosen by the Tacis project for promotion.

At the time the Tacis project was launched, AFN had already overcome start-up barriers and represented a relatively mature company operating under strong competitive pressure. It supplied several products to the Moldovan and Russian markets, including motor-testing devices, electronic electricity meters, and a computerized system for gas-flow metering. Ownership and decision-making were concentrated on the main executive who not only had a very strong personality and evident entrepreneurial talents and capabilities, but was also prepared to take on responsibility, to take necessary risks and to create new ideas. The short history of transition proves that such people can be successful in spite of the tough macroeconomic environment. However, if not supported by improvements in the business environment and some technical assistance at critical stages of development, these *de novo* companies can quickly lose their acquired competitive advantages and focus on shadow operations for survival rather than on long-term development goals.

The company occupied a niche which had been practically neglected in the previous system: it worked on the borderline between innovation and manufacturing, being strongly consumer- and demand-oriented. Reengineering to reduce costs and improved quality management as well as targeting markets outside depressed Moldova with the new products were the principal business concepts. Moreover, AFN realized that timely market entry played an important role and products were developed on the basis of accurate industrial foresight. For instance, the motor-tester—AFN's 'cash cow' product for several years—was entered into the market as soon as the flow of imported second-hand cars created strong demand for qualified servicing and repair both in Moldova and in Russia. Moreover, measuring devices—products which focused on the company's core technical skill—were AFN's answer to the energy crisis, which required decentralization and control of natural gas and electricity supply and consumption.

At AFN, the role of its defense past and conversion remains a contested issue. Strictly speaking, AFN, as a new business start-up, can hardly be termed a company undergoing conversion from defense to civilian R&D and manufacturing. If conversion is understood in broader terms however—as the productive use of released assets through a fundamental redefinition of the value chain, the firm's boundaries and its networks—then AFN, by employing people who worked in defense R&D and manufacturing and by applying technologies developed in the defense complex commercially, may be safely regarded as a model case of conversion.

In order to target growth and expansion, AFN had to react to a number of key constraints including the following:

- An unfavorable business environment, especially excessive regulations and state intrusion, as well as unfriendly tax policy. Lack of market predictability—especially difficulties in estimating latent demand—increases the risk of making decisions on false or missing information. For instance, the demand from farms for heating/drying devices along with the payable demand were overestimated, in spite of the attractiveness of the initial business idea.
- Lack of knowledge of the market and of the practical skills essential for the type of business chosen by AFN, in particular skills required for dealing with new supply and client chains (especially foreign clients); lack of experience in delegating some managerial functions to mid-level employees and in marketing and presenting new products.
- Limited access to productive assets and lack of access to conventional sources of financing was probably the main bottleneck for AFN. Durable turnover, high R&D expenditures, and costly input translated into a chronic shortage of working capital and significant cash flow problems. The low-scale economy, associated with limited demand, also negatively affected the performance of AFN.
- Finally, there was, of course, also a risk of liquidation in view of the high priority given to informal activities within the company.

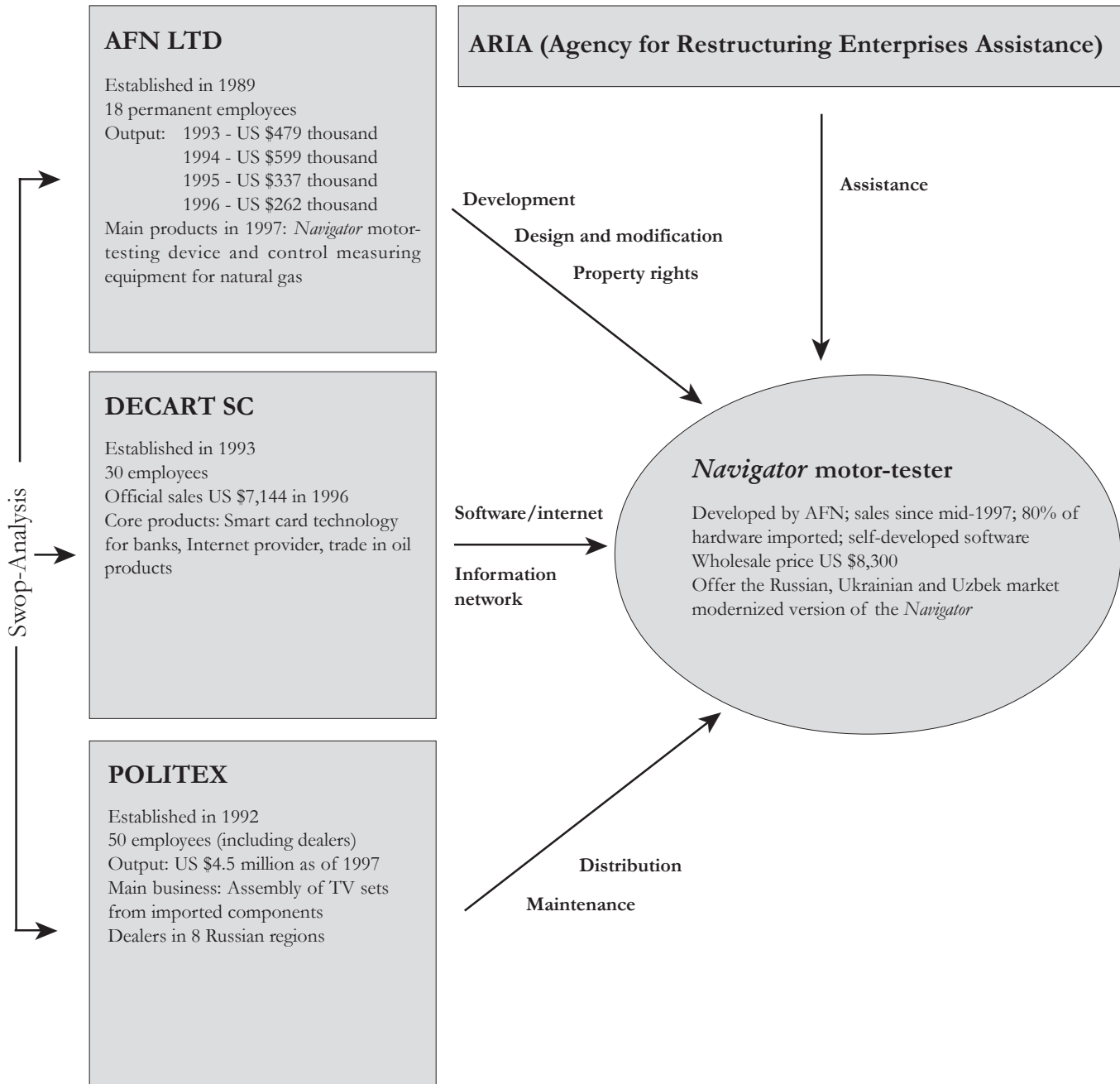
However AFN had already proved its ability to adjust to the crisis and overcome the macroeconomic shocks and resulting constraints before the Tacis project team arrived. The company had good insights into Moldovan society, specific cultural features of the market, consumer choices and state-business interaction. Among the company's strategies, the following were of major importance:

- An active market policy orientated towards demand.
- Product diversification and the insight to abandon products quickly once they had exhausted their markets.
- Minimization of the risks of borrowing on the unstable and costly financial market. Both cross-crediting between friendly small companies (private loans) within an 'old boys' network and paying workers in arrears were often exploited to solve cash flow problems.
- Problems of input quality and insecure supply—typical of Moldovan industry—were compensated for by the import of standardized components from established Western suppliers.
- AFN avoided the constraints linked to prohibitive prices for production capacities for start-ups by investing in its own premises and even raised funds by leasing out idle capacities.
- Establishment of business ties and intensive networking, including contacts to depressed public enterprises in search of a cost-efficient supply.
- Informal agreements in the format of verbal contracts, private loans and joint ventures played an important part in the company's performance.

- Application for international assistance packages.
- Cost-optimization measures: balancing permanent and contracted workers and the associated labor costs.
- Accounting did not always conform strictly to regulations.

To sum up, in spite of difficulties, AFN turned out to be a well-selected partner, which had proved its ability to learn, adjust and acquire new competitive advantages in a manner favorable to creative interaction with foreign consultants.

Figure 4: Beneficiaries



Project Implementation

Objectives and tasks

According to the implementation procedure for Tacis projects, the main objectives and specific tasks to be carried out by the team of EU experts must be drafted in advance and agreed both in Brussels and in the recipient country. This procedure has both advantages and disadvantages. On the one hand, an agreed program brings a legitimate background to the work and helps to avoid conflicts and the clash of interests; it makes it possible to hire a variety of specialists in advance and to carry out other preparatory steps, particularly useful under the usual pressures of time; moreover, it increases the transparency and accountability of how public funds of the EU are being allocated.

On the other hand the situation changes very rapidly in transition economies. If approval and tendering procedures take a long time, the recipients of the technical assistance may already have moved on from the point they were at, changed priorities and/or status—or even ceased to exist. Fortunately the main beneficiary of this particular Tacis project, AFN, had remained in the market; however it had significantly reassessed its interests in the project along with its business strategies and priorities. This was therefore a serious challenge to project success and made it necessary to make adjustments and compromises including the overcoming of cultural barriers, flexibility and quick learning on the part of all partners involved.

The most important general objective of the project had been to support three small private electronic companies with roots in the military

sector (AFN, Decart and Politex) (see Figure 4) thus providing impulses to the Moldovan private electronic industry and stimulating growth and employment opportunities. Specific objectives were that the project team was: to identify and strengthen the competitive advantages of these local partners; to support the development of AFN's core conversion product, the motor-testing device for automobiles; to assist in the compilation of advertising material and in marketing; and to identify joint venture opportunities for the beneficiaries.

Eight project activities were specified:

- Analysis of the technical and commercial capabilities of each of the partner enterprises, in the form of confidential company survey reports
- Technical appraisal of the motor-tester and user manual documents plus the testing of a prototype in Germany
- Assessment of the commercial competitiveness of the motor-tester through market and competitive environment analysis
- Preparation of strategic action plans for each of the partner enterprises in accordance with various internal and external scenarios
- Implementation of the action plans supported by appropriate business trips for representatives of the partner enterprises
- Preparation of draft finance and investment plans, including management training on techniques to improve access to external funding

- Identification of possible joint venture opportunities for the consideration of the partner enterprises
- Development and implementation of practical training programs closely related to the needs and the environment of the partner enterprises.

In order to ensure that these tasks could be carried out, BICC organized a team of specialists complementing the skills of its own employees in defense conversion, company restructuring and transition economies with specific professional expertise in automobile electronics, marketing studies, legal consulting and strategic planning. The companies Price Waterhouse, DMC and TÜV joined the consortium as subcontractors (see Figure 1). It was decided that there should be one long-term expert on site permanently and that he should be supported by coordination via BICC along with medium- and short-term visits from other experts, depending on the tasks to be done. Altogether there were nine short-term experts. Furthermore, four local consultants were hired to work permanently on site, combining training with learning on-the-job. As further project implementation showed, this was a viable approach, especially given the interdisciplinary nature of the project and the challenges of the macroeconomic and transition shocks.

Unexpected factors upon arrival

The project team arrived in Chisinau on 30 April 1998. This was three-and-a-half months before the Russian financial crisis and following defaults, inflation and local currency devaluation took place. This financial crisis was, however, not the only surprise the team faced. Another piece of news was that two of the three partner organizations who were to receive assistance—Politex and

Decart—had practically lost interest in the project and aid measures requested earlier. This created three problems: the first was how to adjust the action plan drafted earlier to the new circumstances, as Tacis rules only allow minor deviations. The second was to identify alternative opportunities, to adapt the team of experts to the new tasks, and to try to get the uninterested beneficiaries once more interested in joint action, necessary for the success of the project and company development. And the third challenge was to explain the concept of the Tacis project to the beneficiaries and supervising partner ARIA² to avoid wishful thinking and unrealistic expectations. For instance, it was necessary to make it clear that Tacis technical assistance excludes an investment component and that its main component is shared expertise in a variety of fields. As will be shown below, these problems were solved successfully, though the problems of access to the less interested partners, their transparency, and reasonability of allocation of resources in their favor remained a contested issue throughout the project.

However, there was good news as well: AFN provided excellent working space and its staff were cooperative, enthusiastic and creative. Moreover, as will be shown later, the product to be promoted was genuinely good and the same could be said of the company to be developed. Four local consultants, selected at the inception phase of project implementation, also provided excellent team work and cooperation. As a result, routine start-up work was commenced and proved highly effective: within a month of arrival, an office had been established, equipment purchased, and initial analysis of the three local partners carried out. Technical information on the motor-testing device had been collected and translated into English in order to enable the company to present its product to potential partners and clients, to exhibit it at various trade fairs and to cooperate better with the

part of the project team involved in technical appraisal of the product and similar tasks. Later, this document was expanded to include a presentation of the company AFN itself and its products, which proved to be very valuable in introducing the beneficiary to international partners.

Diagnosis: promising, if constrained business in an imperfect market

The first thing for the team to do was to become familiar with the product to be promoted and the nature of the business itself, along with its strengths and constraints, in order to target assistance most effectively. It should be noted that the team worked on practically all tasks simultaneously, achieving a useful synergy and cross-fertilization of skills and expertise from people of different professional backgrounds.

Certainly it would be naive to think that Westerners—even those highly qualified and trained to work in the problematic conditions of transition economies—could create an economic miracle during short on-site visits or that they could develop revolutionary business ideas which had not occurred to local executives. It would be equally naive to expect local executives to be completely open about their plans, the state of the company and books, especially in a country like Moldova, where it is believed that two-thirds of GDP are generated in the grey or shadow economy. Nor was it likely that these local executives would accept all proposals made by the team of experts. The BICC team therefore learned to take figures with caution, to crosscheck them indirectly, to pay more attention to trends than to precise liquidity indexes, and to discuss all problems which emerged during project implementation openly. Despite possible pitfalls, however, the

analysis of AFN which was conducted appeared to be very realistic and was then able to form the basis for a strategic business plan to be developed further. As far as the other two intended beneficiaries (Politex and Decart) were concerned, auditing was limited in view of the above mentioned problems of access and transparency.

Constant assessment, or diagnosis, was an on-going task throughout the project. Begun during the inception phase, it was further supported by the local experts who were each responsible for finding a contact at the respective partner organizations and collecting information from them. Producing regularly updated reports on the respective company appeared to be a good mechanism to increase the efficiency of the short-term experts by minimizing their learning period and allowing them to prepare for site office visits. Final company reports were also drafted and served as a basis for strategic action plans. In addition, financial data—reconstructed according to Western standards—and professional performance presentations and product data built up a solid foundation for presentation of the company to international partners along with other promotional activities. AFN's company and product presentation is based on one made in Germany for Bosch, Hermann Electronics and DAT (Deutsche Automobil Treuhand AG).

² ARIA, the Agency for Restructuring Enterprises Assistance, was established in Moldova to promote market reforms, privatization and organizational restructuring and to facilitate state-business relations. In this Tacis project, though being termed a beneficiary, it actually played the role of mediator, supervisor and member of the Steering Committee, in other words, a panel for urgent and flexible resolution of problems that emerged.

A summary of the analysis of AFN:

■ AFN's **marketing advantage** with the device for testing motors was based first and foremost on price competitiveness, extended use of standard high-quality components and the universal nature of the product, applicable to various types of car. Moreover, AFN outperformed competing brands in its ongoing innovation of the software component of its core products.

■ The **main weaknesses** identified were in the areas of marketing, organizational structures, and controlling. Technology-driven and exclusively authoritarian decision-making, confused bookkeeping, and lack of personnel with a good knowledge of financial and marketing management presented serious barriers to further development and growth. It was strongly advised that assistance be focused on these particular areas of internal company restructuring. Moreover, given that the company had chosen the development path of a designer and marketer rather than of a manufacturer, the inadequacy of marketing and distribution skills presented a strategic risk for the company. AFN crucially needed more control over costs and quality—especially as it planned to increase output—and the upgrading of its organizational structure.

■ A surprising observation was that, at this very small company in a peripheral country, production and distribution were already linked to complex **international networks**. However, to enable AFN to capture

a greater share of wealth within the commodity chain, it was necessary to improve the geographical and price dynamism aspects of supply. Moreover, the depressed demand and limited market in Moldova by definition required geographical expansion. The team undertook actions to bring AFN into contact with the West, equipping it with promotional materials, printed advertisements, professional manuals and, finally, contacts to potential business partners.

■ As an answer to the effects of transition shocks and the imperfect market, **flexibility** in product specialization and in customer supply proved to be important: the feasibility of customers leasing the motor-tester and their ability to fund this were analyzed. The BICC project team drafted a new application for international assistance to support clients in leasing equipment for mini food-processing shops—the niche which AFN planned to enter with its gas-burning and control and measurement technology.

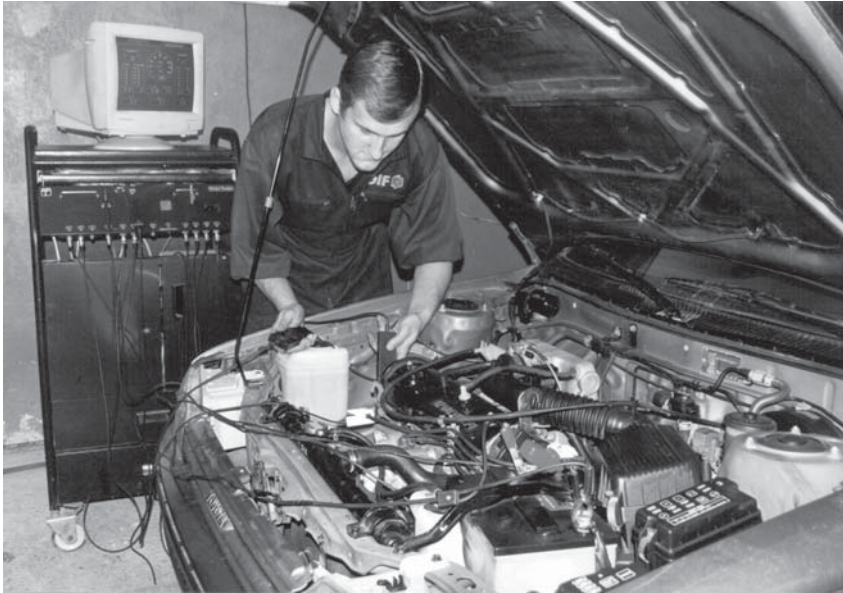
The Navigator motor-testing device: a technically advanced product, at risk from shrinking demand and high competition

As specified in the Terms of Reference, AFN's core conversion product—the *Navigator* automobile motor-testing device—was subjected to technical appraisal and marketing and competitive environment studies, aimed at product promotion. The analysis of the design, distribution and marketing segments within the commodity chain provided unique insights into the processes through which the core competence had been created. In addition to conventional marketing instruments, the project team looked at the complex interaction

of cultural and organizational innovations, especially relevant in transition economies.

Technical evaluation was the first step in the action plan. In response to a request from AFN, implementation of this task deviated in several respects from the original plan. There were two reasons for this: firstly, AFN's technical team was in the middle of a critical upgrade of their software package and naturally wanted to test the upgraded version. Secondly, intensive contact to international partners, facilitated by BICC, had opened up an excellent opportunity to carry out the technical appraisal of the motor-testing device on an expanded scale. The BICC team and their local partner, AFN, agreed that a joint evaluation carried out by the technical experts of TÜV (subcontractors of the BICC consortium) and the German company Hermann Electronics, interested in potential collaboration on site in Moldova, would provide more convincing and interesting results than what had initially been planned. Some of the stages of technical evaluation included studies of the documentation, on-site tests and comparative tests against competitive German brands (shipped to Moldova by Hermann Electronics). The results were a pleasant surprise: the technical qualities of the motor-tester were estimated to be very high. Moreover, some of the hardware elements of the original design were even of interest to the evaluators. For instance, the vacuum sensor (part of the motor tester) was subsequently purchased and exported to Germany.

Technical support to other AFN core products (primarily the gas burner) was provided on a limited scale, mostly in connection with the specification of components imported from Germany and other Western countries.



The “Navigator” motor tester at a service point. Photo: AFN

The technical evaluation of the motor-testing device was followed up by marketing and competitive environment analysis. A subcontractor of the consortium, DMC, assessed the Russian market for the motor-tester on the basis of extensive desk analysis and more than fifty interviews. The local experts conducted analysis of the Moldovan, Romanian and a limited study of Western markets.

The automobile market in transition countries was characterized by phenomenal growth rates in the 1990s, though the market itself was highly segmented according to consumer income groups, including segmented preferences in after-sales servicing and repair. The study showed that, in principle, the market for the *Navigator* had good growth potential, though entry barriers could not be overlooked, especially those due to the depressed state of market demand, competition from imported goods and those produced in Russia, and the fact that customers for the universal motor-tester were slow to emerge: cash-rich customers preferred specialized

Western brands, while mid- and small-scale garages needed time to reach the profit margins sufficient to able to afford the motor-tester.

Demand within Moldova experienced modest growth, though former clients were more interested in purchasing the updated versions of the software package than the product as a whole. As the Romanian market presented a relatively large potential demand, AFN decided to place a sales representative there. As for the Western market, the study revealed that it would be advantageous to promote the *Navigator* database for integration into the test/evaluation software of automobile-testing devices and into workshop management software. The question of whether the *Navigator* database should be sold on either a licensing/royalty basis or via a one-off sales agreement was put forward for the consideration of the executive director.

Another finding of the commercial competitiveness study of the motor-tester made it obvious that it would be necessary to arrange leasing financing for some customers in order to expand and to even stay in the market.

With a view to market entry of the motor-tester and to increase capacities to influence market demand, the BICC team assisted AFN in launching several advertising campaigns featuring a company profile and its core product. Printed advertisements added to AFN visibility and thus undoubtedly contributed to its growth.

New opportunities identified: internationalization

Among many consequences of the market reforms in Moldova and other transition economies, the end of isolation and the opening up of dramatically improved communication and transportation opportunities created new opportunities for business development. A further reason for the increased attention to external cooperation was the small size of the domestic market and the depressed nature of effective demand during the transition crisis.

Opportunities to ‘go international’ were carefully studied by the BICC team of experts as an option for AFN sustainability. The team had to work in two directions: AFN needed to acquire skills to operate in the new, unfamiliar environment, while potential international collaborators needed motivation to come to Moldova, to accept AFN as a partner with complementary skills, and to fund expenses associated with entry into a new market. Needless to say, neither task was easy. However, the team stressed that the assistance of Western experts could be of especial value in this particular area.

The BICC team approached many European, and especially German firms, which were directly or indirectly involved in business close to the core competence of AFN in the fields of automobile electronics, measuring technologies and, linked to these, software engineering. The team brought AFN and its product to several international trade fairs and organized bilateral negotiations in Germany during business and training trips. Finally, visits of representatives from German firms to Moldova were arranged—at that time an unusual event, given the reputation of the Moldovan economy and its entrepreneurial and societal climate within the international business community. For example, contacts to the company Bosch were initiated during the international trade fair, Automechanika, in Frankfurt; these were continued at Bosch's headquarters (where the company AFN and its core product were officially presented) and at an additional informal meeting, once again in Germany. In March 1999, the BICC team organized the visit of Bosch representatives to Moldova. These contacts culminated in the signing of two software development contracts and a Letter of Intent to include AFN as a subcontractor in the project of joint development of a new database, comprising both electronic and mechanical components.

Contacts with the other potential collaborator, Hermann Electronics (renamed, in the meantime, Pierburg Instruments after group reorganization) resulted in a dealership arrangement and commercial interest in the vacuum-measuring device developed by AFN. Though Bosch and Hermann Electronics compete in the same market niche for automobile electronics, it is important to note that AFN, with the support of the BICC experts, was able to establish and develop cooperation ventures with both of these competing companies by avoiding a conflict of interests through offering different product components for their consideration.

In addition, other international companies and institutions were approached by the BICC team in the search for new funding sources. For instance, the team checked the possibilities and drafted the required documents for potential funding from OECF (Overseas Economic Cooperation Fund), Japan, in the field of gas heating devices; moreover, they designed a company and product presentation document on decentralized heating systems, targeted to support from the Dutch governmental assistance program. A meeting with the representative of the European Bank for Reconstruction and Development (EBRD) in Moldova was arranged to find out what opportunities existed for EBRD financing.

To sum up, opportunities for cooperation were identified in the field of information supply, exchange of hardware, product distribution, and maintenance services. These relations took the form of various different contracting ventures, either development (Bosch) or hardware supply and dealership (Hermann Electronics). In addition, representatives of Chinese companies interested in gas-burning technologies visited AFN. The American company V-Tech Engineering also expressed a strong interest, through its UK branch, V-Tech Engineering UK Ltd, to cooperate in the field of production and international marketing of the DAVA gas-burner series. All these negotiations with potential foreign partners were supported by the BICC team.

In spite of obvious success in international joint venturing, one question remained open. It was unclear whether AFN would be able to continue to support these international links once the Tacis project had come to an end in view of relatively poor communication and language skills within the company and the high cost of availing of such skills from outside.

Unfortunately, cash flow problems made it impossible for AFN to offer competitive wages for people with international experience who are, in any case, scarce in Moldova. However it is possible that the problem might be partly solved by part-time contributions from the local experts trained during project implementation.

New product studied: gas-burning technology

One of the findings of the technical evaluation and market analysis was that the core technical competence of AFN and better market opportunities lay in the field of measuring technologies and automatic control devices rather than in software products for automobile electronics.

Several macroeconomic factors need to be mentioned here. First, the increased demand on the local market for automation and measurement (due to the changed structure of relative prices), evident market pressure for improved productivity and cost optimization, and the search for better quality. Second, the introduction of new—higher—energy tariffs in late 1998 redirected the interest of consumers to energy-saving technologies. In this way, the controlled gas-burning technology developed by AFN mirrored the growing demand from agricultural and industrial clients, and households. Moreover, the government had drafted a program on the restructuring and privatization of the energy sector, which foresaw radical reform of the distribution network. AFN may be expected to have good chances of getting involved in implementation of this program via its energy-saving technologies.

Two fields of application for automated gas-burning technology were suggested: drying of timber, tobacco and other agricultural products, and household heating by boilers and thermo-generators. Though the technology was still at the

Figure 5: Comparative evaluation of Tacis projects in Moldova, 1997–2000

Source: Tacis Coordinating Unit in Moldova

	<i>Title of the project</i>	a	b	c	d	e
1.	Assistance to Moldovan Export	-	2	3	-	-
2.	Assistance to Moldovan Export Promotion Organisation	-	2	2	-	-
3.	Rural Initiatives Network	-	2	3	-	-
4.	Privatisation Task Force for the Implementation of the 1997–1998 Privatisation Programme	-	-	3	3	-
5.	Implementation of the EU–Moldova Partnership and Cooperation Agreement (PCA)	-	2	2	-	-
6.	Advice on Partnership and Cooperation Agreement (PCA) Implementation	-	-	1	4	1
7.	WTO Implementation	-	2	2	2	-
8.	Advice on WTO Accession	-	5	1	-	-
9.	Support to Conversion & Development of Defence-related Enterprises	6	-	-	-	-
10.	Enterprise Isolation Programme	-	2	3	1	-
11.	Bank Payment and Settlement	1	4			
12.	Financial Framework Task Force (FFTF)	-	1	-	4	-
13.	Financial Service/Bank Training (EBTRA II)		-	-	-	4

Notes: Projects were graded from ‘a’ to ‘e’ with ‘a’ representing the best grade. The numbers show how many times a project received a certain grade, given that different criteria were evaluated.

development stage at the time of project implementation, it seemed to promise increased safety and significant energy-saving for customers and was therefore considered an important potential for AFN's business expansion.

The team undertook additional measures, not included in the Terms of Reference, to strengthen their partner's competitiveness in the field of new technology. For instance: market entry of the new product (gas burner) was supported, especially in respect to building up an international supply network; a pre-feasibility study in the field of thermal energy was conducted; and a business strategy linked to the other products (mini-food processing shops) was discussed and documented as a project proposal to Tacis. Markets for the new core products (gas-burner technology and the electric meter) were only studied on a limited scale for the purpose of designing a strategic plan. In addition, the partners actively discussed internet marketing strategies and 'make-or-buy' decisions for the new range of products.

As will be shown below, this new opportunity—identified jointly by AFN and the BICC team—has opened up both a large new market as well as good development perspectives for the beneficiary.

Learning how to learn

Why is learning so essential for a start-up company in the unfriendly business environment of a poor economy like Moldova? The BICC team believed that speed of learning was fundamental to success in such a situation and that it explained why two companies with similar starting conditions could produce diametrically opposed performance indicators. Given this assumption, the team selected various training strategies: formal seminars on site, lectures for a

wider audience at the Technical University, study tours in Germany, on-the-job training and, last but not least, learning-on-the-job. Each local expert from the team worked in a pair with his Western counterpart.

Every visit by a Western short-term expert was used for training sessions related to his/her particular field of specialization. In total, fourteen seminars were conducted, including one lecture at the Technical University attended by a large audience of students, professors and engineers. Two study tours to Germany were organized with very positive learning and commercial results. Several topics, covered in formal training sessions, attracted particular attention: restructuring methodology and experience; methodology of project management; new developments in automobile electronics.

The team leader and all short-term experts used informal on-the-job training as an active ongoing instrument of know-how transfer during the whole period of the project. The quality of the training was partly shown by the encouraging results of the company and product presentation, prepared by the local experts and presented in Germany to international partners.

The learning component of the study tours and business trips to Germany mainly consisted of skills developed through establishing contacts, participating in trade fairs, company and product presentations, and the transfer of Western experience in the relevant fields of interest. Altogether six people participated in a study tour to Frankfurt and another two people took part in a second tour to several cities hosting the largest German companies involved in the automobile electronics business.

The main target group for training were the local experts, hired by the BICC team for the duration of project. By the end of the project, they were well trained to perform important marketing, sales and organizational restructuring functions at AFN, especially in the critical period of market entry and negotiation with international partners, as well as support of supply networks.

Results of the project

When the independent Tacis monitoring team evaluated the project, they gave it the highest grades—far above the average received by other technical assistance projects in Moldova (see Figure 5).

The joint work showed—and this finding was reflected in the final strategic business plan—that the challenge for AFN was in transforming itself into a structured, market-driven enterprise. To achieve this goal, several steps were proposed:

- The **gas-burning technology** (rather than the motor-testing device) was singled out as the product with the largest market potential and most significant growth prospects. A corresponding reallocation of efforts, resources and technological innovation was recommended.
- **Organizational structure and resource management** were likely to need transformation, given the increased diversity of product-market combinations. Creating strategic business units in different business areas was thought to be a suitable approach.
- **High transaction costs** at the stage of materials management due to low bargaining power, low purchasing volumes and the application to intermediaries rather than to producers, along with **high transportation** costs would require further improvements in order to stay competitive.

■ As the possibility of a joint venture with Decart and Politex—which might have brought strategic benefit—no longer existed in the short term, the BICC team offered a methodology for evaluating the feasibility of various different **strategic partnerships**. Impact on internal resources, especially in compensation for the weaknesses in marketing and sales, was of particular interest to AFN. International partnerships, like the ones established with Bosch and Hermann Electronics, would hardly lead to a fundamental reorientation of AFN’s strategy, though they could be expected to provide excellent commercial and learning opportunities.

The BICC project team launched activities in all these areas. Even within a relatively short time from actual implementation of the proposed plan, AFN had visibly strengthened its position on the market. It had diversified its product mix and entered new market niches, it had increased sales, and it had kept numbers of permanent staff stable while increasing the number of part-time jobs. Moreover it enlarged outsourcing, thus achieving a labor multiplication effect. Sales representatives for the motor-testing device had been trained. In view of the growing product-market diversification, the company was considering establishing informal business units, each responsible for its own individual market.

As far as the other partners in the project were concerned, they were less affected by the action taken during project implementation and their

performance was driven by other determinants, foremost by developments in the markets for their core products. Politex, for example—one of the three companies mentioned in the original Terms of Reference—faced a very serious depression, dramatically worsened by the changes on the Russian market for consumer durables. Depreciation of the Russian domestic currency, reduced demand, and increased state protection made it practically impossible to export televisions assembled in Moldova to Russia. Developments at Decart, the third of the three companies originally involved in the project, were mixed: on the one hand, Decart expanded on the booming telecommunications market and intensified cooperation with AFN in cryptographic technology. On the other, it faced severe problems with government intrusion and company controlling in view of weak manageability of spun-off assets and the confusing status of the free economic zone.

It should be stressed that, at AFN, the goal of facilitating external contacts was given highest priority. By optimizing the supply network, significant cost reductions were achieved, while software development contracts brought relief to the constrained finances of the company. The international business environment had been the area least known to the staff of AFN in view of their limited experience in initiating and maintaining contacts, negotiating deals, and evaluating the costs and benefits of international commercial interactions. Thus business trips to Germany were used for the presentation of the company and the establishment of contacts with international partners.

Numerous contacts established by the project team resulted in various different agreements, which had the potential for further development. Three types of relations were identified:

- Cooperative contract ventures
- Cooperative contract ventures in negotiation
- Initial interest in cooperation.

With regard to strategy implementation, BICC’s experts strongly advised AFN to take growing product-market diversification into account and to consider establishing strategic business units, either formal or informal, each responsible for its own market. They also advocated improving both internal and external communications, as well as the development of milestones and resource budgets for the objectives chosen. The local experts, trained within the framework of the project, were likely to be the most suitable employees for implementation of this strategy in the critical period of new market entry and internal reorganization.

The Situation after Completion of the Project

Times remain turbulent

Despite expectations that the 1998 defaults represented the bottom of the crisis, this proved not to be the case. Output contraction, inflation, depressed demand and uncertainties continued to affect the business environment negatively. Moreover, interviews in Moldova in early 2001 showed that government economic policy initiatives had made the situation even worse and had weakened mechanisms which had earlier been able to absorb some of the effects of the shock. Especially disturbing for AFN and other small companies had been the introduction of import and export licensing and VAT on imported components to be paid before the supplies reached Moldova, along with the taxing of investment (through VAT) and the increased regulative powers granted to parliament. When the communists came to power in 2001, economic policy became even more uncertain.

The artificially maintained gap between the official exchange rate of the local currency and real parameters of inflation also caused many negative externalities. Brain drain through emigration of qualified workers increased. As poverty had reached a critical level, combating this, rather than economic reforms, was likely to be the main government priority in coming years—and poverty was also likely to be the main focus of international assistance to the country. Several scandals involving foreign investors created additional barriers and lowered the already low rating of Moldova among transition economies even further. Moreover, local companies faced increased risk of competition from customized Western products as

domestic price competitiveness had not been matched by quality, reliability and after-sales servicing requirements.

Bittersweet success

Nevertheless AFN did not merely switch to survival mode but continued to develop and grow. Given the circumstances, the fact that AFN remained in the market, expanded and established new competencies can be deemed a success. It is still a small ‘hungry’ company, capable of very economical performance. Its primary goal—to create new products and businesses based on industrial foresight—has remained unchanged. However the paths leading to that goal have been visibly improved. AFN introduced a new agenda aimed at building up advantages: competitive advantages were geared to timely market entry and customer response and spanned geographical, cultural and organizational boundaries. Gradually AFN successfully caught up with quality and cost requirements, reconstituted supplier networks and reengineered the manufacturing processes. These are probably the main effects of the recommendations received during implementation of the Tacis project.

It was significant that AFN—in contrast to the pre-project times—rid itself of the ‘dangerous’ assumption that customers buy their product because they think that it is technically superior, and that AFN now pays more attention to the issues of market creation and development, after-sales servicing, as well as on time and on budget delivery. For example, AFN began to publish advertisements and technical leaflets and carried out several promotional campaigns aimed at local and regional trade fairs. The company webpage

(www.afn.mldnet.com), targeted to Central and Western European markets, got underway at the time of writing this report. Moreover, in spite of resource scarcity, the company has invested in human capital: several employees participated in marketing and sales training seminars in Germany and Greece. However, it remains unclear whether these efforts will be sufficient to allow AFN to enter Russian and European markets and to retain a share in the Moldovan market.

Success was, however, bittersweet. The process of implementation of the strategy and recommendations was full of frustrations. AFN faced multiple uncertainties concerning technology, demand, and its relationship with the government along with major regulatory and legislative changes. At one point, conflict with the government resulted in the blocking of accounts, on-paper liquidation and the reestablishment of business operations in the free economic zone under a new name. Operational inefficiency under the constraints of time and resources led to missed deadlines and limited the potentially high value of joint ventures with Bosch and Hermann Electronics, established earlier. AFN’s ‘technical guru’ and co-owner did in fact eventually leave the company, and, as little leadership development had taken place, this threatened the company’s core skills. The high social costs of payment arrears to the workers also cannot be neglected. Not too inspiring news is that the significant training efforts focused on the four local experts, who were expected to devote their skills to AFN, were partly wasted: as often happens with internationally educated local students, small distressed local companies can hardly satisfy their expectations as regards remuneration; thus, although cooperation between the company and local experts still exists, it is being kept within limits.

Box 3: Contribution of the project to company performance: vision of the executive director Tudor Nicu

The BICC team approached the executive director of AFN in early 2001 to find out what effects he thought the Tacis project had had on company performance. He stressed the following points:

- The acquisition of new skills and learning seemed to be the main effect. It allowed the gas burner to be developed and marketed much more efficiently than previous products.
- Skills necessary for cooperation with Western partners had been built up from scratch. Moreover, self-confidence had increased. This was a result of being involved in project implementation—especially technical evaluations—and of participating in trade fairs in Germany and Russia and negotiations with German partners in the joint ventures. Such activities also contributed strongly to building up the company's identity.

- The project helped to formulate the company's core competitive skills and to present these to clients. Here it was not merely a technical problem, but also one of attitude. Development of communication skills, not only by top managers, but also by middle-level employees was important.
- Legal support was of major importance. New contracts with suppliers and cooperation partners were copied from the 'model' developed for the agreement with Bosch. As a result, AFN has not yet had any problems with the legal correctness of documents nor with discrimination in international markets resulting from the lack of legal skills.
- Reconfiguration and optimization of supply networks was a significant achievement. AFN has been able to establish supply which is competitive from the point of view

of price as well as security of delivery. Moreover, currently, no less than two potential suppliers are available for each component. This is critical for the firm, since material supply from the West would entail the highest costs.

- Introduction of better work discipline, project-based planning, strict time schedules and the development of detailed technical documentation were beneficial. (Previously the latter had been a particularly weak point).
- Further positive effects were: improved management of human resources; the introduction of strong links between salaries and work efficiency; and the setting up of a new hierarchy within the firm.

Source: Interview with AFN's executive director, January 2001

New product line

Portfolio rationalization was one of the answers to the above mentioned problems. The main executive, adverse to taking unnecessary risks, had a sense where the opportunities lay and closed down the motor-testing device program, which seemed to have exhausted demand both in Moldova and in Russia. The company invested in building new competencies to pursue growth opportunities in the market of heating and measurement technologies, in line with the strong recommendations from the BICC experts.

AFN began looking at the potential for becoming a player in heating technology by applying innovations it had partly developed and partly reengineered in its range of different

products. On the basis of the funding of the technical assessment carried out within the framework of the Tacis project—which showed that the core competitive technical skill of AFN lay in measurement technologies—the executive director came to the conclusion that the company was capable of producing heating devices supplied with electronically controlled gas burners at a lower cost and higher quality than offered by other companies.

At the time of writing, AFN was focusing on two products: (1) gas burners and (2) autonomous heating and hot water systems. The gas burners had been advanced technically by the development and application of a fuel nozzle and the introduction of an electronic control system. In addition, the decision was taken to construct models with various

different modifications to match customers' precise preferences, the variety of applications (farming, industry, community services) and differing demands in terms of capacity (up to 3,000 kW) and productivity (Recean, 2001).

The second product line was developed on the basis of the assumption that the market could be significantly expanded if AFN added services to the core product and sold gas burners integrated into automated boiler houses, maintained via remote control by means of telecommunications. It was significant that Moldova was severely hit by the energy crisis: in the winter of 2000/1, heating was only supplied to the country's capital Chisinau, while other towns practically froze. In addition to the debt problems and dependency on the import of fuel and energy noted

earlier, the crisis was dramatically exacerbated by the extreme inefficiency of the existing infrastructure, especially the centralized heating network. Thus the installation of boiler houses, working autonomously, could radically improve the situation. AFN is aiming at becoming a shaper in this market, expecting that heating supply to households will be decentralized and energy-saving measures in electricity and natural gas consumption introduced in Moldova and other CIS countries. It is expected that this will result in a large economizing effect due to reduced gas consumption and reductions in losses (heating in Moldova is subsidized, therefore the gap between official tariffs and actual costs result in losses) as well as to higher efficiency (93 percent as opposed to the current rate of less than 50 percent).

The development stage of the production cycle was completed in 2000. Working prototypes were built using relatively small resources. Certification was obtained in Russia, Ukraine and Moldova. In order to solve the problems of resource constraints, it was decided to cross-subsidize two programs: to finance installation of the boiler houses in the Moldovan town of Ungheny using the advanced payment received from a cash-rich client in Russia (the company Uraltransgaz in the town of Nevyansk in Sverdlovsk oblast). Another problem was to locate cost-effective supply of components and to adapt the gas burners to the poor quality of natural gas used in Moldova. The struggle against Thermokom, a monopolistic supplier of heating in the city of Chisinau and other Moldovan towns which was not interested in the reduction of tariffs, was another challenge which had not yet been solved.

Organizational reconfiguration was undertaken to spin-off business related to the gas burners and to enter into cooperation with several Moldovan co-producers. As of early 2001, this business was transferred to the newly created DAVA concern, which will continue with the updating, installation, maintenance and servicing of the boiler houses. The total contract portfolio for the gas burners reached 600 samples (in both the Moldovan and Russian markets) while the number of boiler houses actually constructed and put into operation amounted to twenty.

In view of the high attention given to heating technologies, other products (electricity and natural gas meters) were given lower priority. However this field was not abandoned altogether and AFN invested in the development of a natural gas corrector to strengthen its capabilities in this field and to meet clients' requirements. As far as projects in the field of electrical equipment are concerned, there is still great uncertainty as to the results of privatization of the electricity distribution network. As of early 2001, most electricity distribution lines had been purchased by the Spanish company Union Fenosa, which invested US \$40 million in the project in 2000 alone (*Ekonomicheskoye Obozreniye*, 1 September 2000, p. 15). The new owners may push local suppliers of electricity line equipment out of the market.

One additional follow-up of the project should be mentioned: in mid-2001, the AFN executive and the long-term expert of the BICC team established a commercial joint venture and registered it in Germany with the aim of further supporting the international contacts established earlier and continuing assistance in the area of component supply. This may be safely seen as an indicator of the critical role the technical assistance was able to play in development of the enterprise even under the tough conditions caused by the transition crisis.

To sum up: by the time assistance had come to an end, the beneficiary company, AFN, showed remarkable signs of progress. In a poor country with a depressed economy, however, many macroeconomic risks remain unmanageable for small- and medium-sized companies (SMEs). Nevertheless there are good reasons to believe that, when conditions improve, AFN will be among those companies most capable of responding successfully to these improvements and of taking advantage of the new opportunities.

Conclusions: Lessons Learned and Recommendations

There are no easy answers to the problems which emerged during and after implementation of the Tacis project. However several lessons stand out:

The first lesson is that **many responses at the micro-level are determined by the initial conditions in the country:** the initial level of industrialization and industrial organization, defense dependence, collapsed demand and imbalances in state-business relations are the primary causes of the difficulties. It is hardly possible to support a sustainable business unit without macroeconomic stability, a balanced market and a small-business-friendly policy. However, as the case of AFN showed, cluster development in a high value added and export-oriented niche can be a success, though its spread into the surrounding local economy is severely hampered by the inadequacies of the macroeconomic situation.

The second lesson is that **the ability to learn faster than competitors is the most important sustainable advantage in the transition and crisis environment.** By speeding up the learning process, this advantage may be decisively strengthened. However, traditional teaching methods and lengthy lectures had a comparatively low impact. The team's proposals regarding change hardly affected management visions of markets, business and competitors. Interaction with consultants, technical evaluations, comparative studies and

the twinning of Western and local experts worked a lot better. Another observation is that the learning which benefits the company most is the learning done by those who have the decision-making power and that a project is successful when the company learns, reflects, changes direction and accomplishes other goals.

The third lesson is that **the roles of facilitators and catalysts in the restructuring project can best be performed by outside consultants.** This results in a useful mixture of insights on the part of the beneficiary and complementary experience from Western experts. Furthermore, general uncertainties are too great to apply traditional strategic-planning processes which may serve companies well in relatively stable business environments. Thus planning 'what-if' scenarios and flexible responses to changes seem to be fundamental to determining strategy under such uncertain conditions. For instance, the reorientation of the restructuring plans from equity joint venturing of the three local companies to less formal contractual ventures, including those with Western companies, proved effective. Moreover, the idea of finding local companies to complement own skills was not ignored: as the follow-up of the project showed, AFN's executive director returned to the original idea of building up a holding of local companies around a new project in heating technology, though the configuration and goals of this project differed much from the original strategy plan of 1998. In this way, new ventures inevitably deviate from their original targets and often require fundamental redirection.

The fourth finding is that **sometimes things simply take time.** For example, very often the first reaction of management to the team's proposals was polite but without questions or feedback, which could have been interpreted as implying that the team's advice had little relevance to the realities of the current business environment in Moldova. Upon return, however, the BICC team found that its advice had been well incorporated into policy, even if first impressions had been different. Another aspect of timing is **the importance of advanced preparations** before the team arrives on site. For instance, an early start enabled the contractor to increase the efficiency of the inception phase and to very quickly understand the need for adaptation of and deviation from the Terms of Reference. For example, within the few weeks between being awarded the contract and official arrival on site, the BICC team had drafted the questionnaire for initial company analysis and had started collecting relevant information. At the same time, the beneficiary company made a preselection of local experts and introduced them to the company's problems, products and procedures.

The fifth lesson is that **the selection of the local partner and the contractors, and the way the contractors' work is organized are decisive** for the project's success. For instance, AFN proved to be a very committed, entrepreneurial and collaborative partner with apparent significant learning capabilities, flexibility and adaptability. The team and the partner organization proved capable of producing new ideas and quickly converting them into workable projects. The manager understood the targets, procedures and limitations of

the project well enough, thus enabling the team to avoid conflicts and make project implementation more efficient. There was no gap between the beneficiary's expectations and the goals of the project, as stated in the Terms of Reference and the Inception Report. The team had full access to the client and all relevant information with reasonable transparency.

And finally, the sixth lesson is that **due application of the rule of law** should be enforced as an important aspect of the assistance, and adherence to a law-abiding culture encouraged, also in the interest of improved state-business relations. Often operations on the informal economy are widely accepted as being a natural reaction to so-called state harassment; often certain violations of the law are deemed unavoidable under the crisis conditions of transition. However, it must be made absolutely clear that this strategy cannot be the foundation of long-term company development.

For those intending to assist conversion and company restructuring in the transition economies, the following recommendations can be made:

- When selecting a private company as a beneficiary, take into account the competitive environment in the relevant markets to avoid contributing to imperfect competition and creating disadvantages rather than competitive advantages. While drafting the Terms of Reference and Action Plans, check the competitive situation and select the companies active in emerging niche markets who are entrepreneurial, committed, flexible and capable of networking and cooperation.
- It may be reasonable to allow the team of consultants to change up to 40 percent of the initial requirements of the Terms of Reference, if this is sufficiently justified by changes in markets and the client's position as well as new opportunities opened up by the experts. The Steering Committee may be nominated as the body with certain decision-making powers to react quickly to changes.
- Marketable products, direct contacts to international partners including on-site visits, the reputation of the international assistance program and of the advisory team, as well as professional company and product presentations are key factors leading to successful international joint venturing. Clear, mutual commercial interests and small and gradual steps in the right direction matter a lot.
- When selecting local experts, consider age, commitment, motivation and language skills as well as desire to stay with the company after the project's completion. An early start and the familiarity of local experts with the specific features of the client's business make their services more efficient.
- When planning training options, combine formal seminars, provision of relevant literature for independent reading, and further discussion with on-the-job training, twinning of Western and local experts, and the use of every visit by Western experts as an extra training session. Make use of information and experience generated by other international projects carried out in the beneficiary country.
- The possibility of integration with other international projects should not be ignored. Usually, during implementation of the project, it becomes clear who the market leaders, most active entrepreneurial enterprises and managers and most capable local experts are. Create an environment for them to learn from each other's experience, encouraging networking and collaboration, thus creating growth clusters within the generally depressed economic scene. An annual conference of the beneficiaries from international assistance programs might prove to be a reasonable panel through which to achieve such a goal. Small-scale monitoring of former beneficiaries and 'kick-off' meetings would be useful for checking the sustainability of local partners and would provide information for improved planning, organization and procedures of the projects.
- Language skills of the members of the team, especially of the team leader, matter a great deal and should not be underestimated. They bridge cultural gaps and establish formal and informal links. Moreover they are instrumental in establishing communication with local partners and, in general, in creating trusting open relationships.

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List of Acronyms and Abbreviations

ARIA	Agency for Restructuring Enterprises Assistance
CIS	Commonwealth of Independent States
EBRD	European Bank for Reconstruction and Development
EC	European Community
ECHO	European Commission's Humanitarian Aid Office
EU	European Union
FTA	Free Trade Association
GDP	Gross domestic product
GSP	EC General Preference System
ILO	International Labour Organization
OECF	Overseas Economic Cooperation Fund (Japan)
PCA	Partnership and Cooperation Agreement
PSC	Project Steering Committee
SMEs	Small and medium-sized enterprises
Tacis	Technical assistance to CIS countries
USAID	United States Agency for International Development
WTO	World Trade Organization

Appendix: An overview of the project: changed priorities and new opportunities

<i>Strengths</i>	<i>Constraints</i>	<i>Policy decision 1:</i> <i>Restructuring through joint venturing among beneficiaries</i>	<i>Policy decision 2:</i> <i>Restructuring through international joint venturing</i>	<i>Policy decision 3:</i> <i>A recombination of assets and a change of product mix</i>	<i>Policy decision 4:</i> <i>Improved financial, marketing and personnel management</i>
<i>Beneficiary 1: AFN</i> An innovative start-up with a defense background; qualified personnel; active entrepreneurship; high technical skills in measuring and software technologies; high adaptivity and learning capacities.	Lack of knowledge of the market; less than optimal supply and client networks; limited access to production capacities and funding sources; little knowledge of countries outside CIS; very authoritarian style of management; substantial cash flow problems; insufficient security for databases.	The objective was to achieve operational and financial synergy, increasing economy of scale and market power by complementing its skills with those of the other partner organizations. AFN was interested in obtaining the dealer and after-sales servicing capacities of Politex and the data security and communication technologies of Decart.	Technical appraisal of the motor-testing device and the evaluation of competitive skills opened up access to international markets. It was thought that international cooperation could solve some of the funding and cash flow constraints, and teach useful lessons on how to operate in the new market environment.	A market study for the motor-testing device and technical evaluations of company's core skills showed that prospects for the main product were no longer favorable. As a result it was advised that AFN change its priorities in favor of heating and measuring technologies and products.	In order to become a structured market enterprise, the following was proposed: refocusing product mix; changing the organizational and resource management in view of increased product-market diversity; establishment of strategic business units in different business areas; reorganization of the supply network. All these recommendations were supported with practical action.
<i>Beneficiary 2: Politex</i> A start-up company with a defense background now specializing in assembly of television sets; good skills in organizing manufacturing and sales; readily available network of dealers and after-sales servicing capacities in Russia; networking skills; long-term 'old-boys' ties with the other two beneficiaries.	Serious demand shock on the market for televisions; changes in government regulations; low transparency of business operations; personnel problems.	Politex was prepared to contribute its idle production capacities and marketing infrastructure to the joint venture. It was interested in expanding and diversifying the risk-laden television set business.	No interest was shown.	No interest was shown.	Though the project team developed a funding and investment plan for Politex and a confidential company report, their effects were minimal. Performance has deteriorated, affected dramatically by the changes in the Russian market for consumer durables.

<p>Beneficiary 3: Decart</p> <p>Software engineering and telecommunications start-up company with a background in defense. High technical skills; innovative entrepreneurship; qualified personnel. Complementary to AFN, skills in data safety and remote control of electronic hardware.</p>	<p>Organizational problems (splitting the company across several businesses caused accountability and control problems); conflict with the government in the telecommunications branch of the business; transparency problems.</p>	<p>Decart was ready to contribute technological skills with a view to expansion, diversification and support of ties with the other two partners.</p>	<p>No interest was shown.</p>	<p>New opportunities on the telecommunications market were analyzed.</p>	<p>Funding approaches were designed, especially opportunities to contact software companies, Internet service providers and venture capital funds in Western Europe. Decart improved its performance in the telecommunications market and intensified cooperation with AFN in cryptographic technology and the joint use of advantages granted by the status of the free economic zone.</p>
<p>Expected results</p> <p>Strengthening of competitive skills.</p>	<p>Improvement of organizational, financial and personnel management.</p>	<p>Expansion; increased value of the new entity; active promotion of the motor-testing device</p>	<p>International joint ventures were not planned in the initial Terms of Reference.</p>	<p>Not planned in the initial Terms of Reference.</p>	<p>Improved organizational, financial and personnel management.</p>
<p>Actual results</p> <p>In the case of AFN, the results were measurable, especially the positive effects of technical assessment, economic and financial auditing, and facilitation of international cooperation.</p>	<p>There was an acquisition and creative application of the European experts' advice in the case of AFN; the other two partners were assisted to a limited extent when they requested help.</p>	<p>The partners reconsidered feasibility of the equity joint venture in view of the changes in priorities and strategic plans.</p>	<p>Two contractual joint ventures were established (between AFN and Bosch and between AFN and Hermann Electronics); the interest of other foreign partners was recorded in preliminary agreements.</p>	<p>Technical evaluating of the heating and measurement technologies and related markets led to a critical recombination of assets and a change in the product mix of AFN.</p>	<p>Identification of constraints in marketing and controlling areas, design of a strategic business plan and new opportunities opened up by the project gave AFN a significant development push. The other beneficiaries received support in selected fields, however, these were not critical for their performance.</p>

The Bonn International Center for Conversion (BICC)

an independent non-profit organization
dedicated to promoting the transfer
of former military resources and assets
to alternative civilian purposes

The transfer of resources from the military to the civilian sector represents both a social and an economic challenge, as well as offering an opportunity for the states concerned. The sustained process of disarmament during the decade following the end of the Cold War has made defense conversion an important issue in many countries today. This process has now slowed down considerably, but the problems faced by those affected are far from solved. BICC's main objective is to make use of the chances offered by disarmament, whilst at the same time helping to avoid—or lessen—the negative effects.

This issue concerns a number of areas: What can scientists and engineers who were formerly employed in weapons labs do today? What is the fate of the roughly eight million employees who lost their jobs in the defense factories? Why are so many defense companies faring better today than they did ten years ago? Will all demobilized soldiers or former combatants find a future in civilian society? What action must communities take when suddenly faced with the closure of a huge military base? How does one solve the problem of the ready availability of small arms and light weapons?

It is BICC's task to tackle these questions, to analyze them on the basis of scientific research, to convey the necessary information, and to give advice to those involved—in short, to **manage disarmament**.

International think tank. BICC conducts research and makes policy recommendations. In-house and external experts contribute comparative analyses and background studies

Project management and consulting services. BICC provides practical support to public and private organizations. For instance, BICC staff advise local governments confronted with the difficult task of redeveloping former military installations. BICC also combines development assistance with practical conversion work by helping in the fields of demobilization, reintegration and peace-building.

Clearinghouse. In its capacity as an independent organization, BICC supports and assists international organizations, government agencies, nongovernmental organizations, companies and the media, as well as private individuals. It hereby mediates and facilitates the conversion process at all levels—local, national and global. BICC collects and disseminates data and information on conversion to practitioners in a wide range of fields and institutions. BICC strives to reach researchers and practitioners as well as parliamentarians, the media, and the general public by means of a variety of tools including its library, its extensive on-line documentation services and its internet service (www.bicc.de). Furthermore, the Center documents the course of disarmament and conversion in its annual *conversion surveys* and produces a variety of publications.

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