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**A cluster support programme for Ukraine:
Design principles and key features**

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A cluster support programme for Ukraine: Design principles and key features

Executive Summary

Ukraine's economy urgently requires investments to spur growth and exports. At the same time, a difficult situation of public finances severely constrains the range of instruments available to government. A stage-based cluster approach can effectively support promoting exports and investment, creating employment and developing the skills base. Cluster development offers the advantage that a significant impact can be generated with limited resources. Furthermore, the cluster approach is in line with the objective of decentralisation.

Clusters are geographic concentrations of interacting companies and institutions (e.g. local government institutions, research and training facilities) in related areas. Cooperation-based cluster support programmes focus on facilitating the development process of emerging and existing clusters, on improving the environment for cluster success and on maximising the impact of clusters.

The main focus of a Ukrainian cluster support programme should be on setting up and strengthening a number of cluster management structures at the regional level with a targeted approach. The cluster management organisations should integrate the key stakeholders from the private and public sector and academia and provide services in particular in the areas of business development and internationalisation, start-up and innovation support, skills and infrastructure development. In addition, a lean coordination and exchange mechanism should be integrated to generate synergies between the regional clusters (e.g. common branding, training for cluster organisations etc.).

The programme should start with a limited number of pilot clusters to generate impact as early as possible, to raise awareness and gather first-hand experience for a larger scale roll-out. According to the results of a quick scan, pilot clusters in IT and automotive industry (especially automotive suppliers) provide a promising opportunity to introduce and test a cluster support programme.

The programme should be based on a new allocation of roles between private and public sector and between government levels which could serve as a model for future initiatives. The role of central government should focus on (1) acquisition of (international) funding for the programme, (2) defining eligibility criteria for participating regional clusters based on stakeholder consultations, (3) facilitating a competition based funding procedure and (4) taking up ideas for business environment reforms identified in the process.

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1. Introduction

Economic policy in Ukraine is under pressure to quickly support the generation of economic growth, boosting exports and employment whilst at the same time having only very limited financial resources available for this task. Therefore, the government needs to use low-cost, high-impact measures to foster innovation and investment in promising sectors.

Cluster development is a particularly attractive approach in this regard. It requires very limited resources from government, yet may generate a significant impact and high visibility amongst investors. In many countries, cluster policies and programmes have been introduced to strengthen competitiveness and to address challenges related to structural change.

Taking into account international experience, chapter 2 assesses what type of challenges and opportunities cluster initiatives can address and what benefits and limitations should be considered in the Ukrainian context. Building upon this assessment, chapter 3 outlines a proposal for a Ukrainian cluster support programme covering key features, the funding mechanism, the division of roles and promising pilot clusters. As part of the proposal, the necessary resources for the programme are estimated. Finally, chapter 4 sketches out the way forward, taking a closer look at the process of initiating the implementation.

2. Suitability of the cluster approach

In the recent past, clusters have gained increasing prominence in debates on economic development. Clusters are geographic concentrations of interacting companies and institutions in related value chains. They comprise players from three groups (triple helix):

1. **Private sector:** Horizontally and vertically linked companies as well as specialised service providers (e.g. financial services, logistics, design, marketing) and business associations
2. **Government institutions:** Ministries, agencies, authorities (national, regional and local level)
3. **Research and educational institutions:** Universities, research institutions, training centres.

Clusters are driven by the co-existence of collaboration and competition. While players collaborate in certain areas, they compete in others. Because of their proximity, cluster players can benefit from several location-specific externalities and synergies. At the same time, competitive pressure from co-located companies leads to higher productivity.

Thus, clusters offer promising opportunities to both companies and the government providing a good basis for collaborative efforts. For companies, clusters offer an attractive breeding ground for competitive advantages. Governments worldwide regard clusters as a key driver of structural change and innovation which in turn creates sustainable growth and employment. Clusters allow for a concentration of resources on targeted areas with a high development impact that can spread beyond the cluster (spill-over and multiplier effects).

Cooperation-based cluster support programmes focus on facilitating the development process of emerging and existing clusters, on improving the environment for cluster success and on maximising the impact of clusters. They aim at creating and exploiting benefits at the company as well as regional and national economy level in the following areas:

- **Efficiency:** Companies can operate with a higher efficiency, drawing on a pool of qualified workers, specialised assets, suppliers and infrastructures. Transport and transaction costs can be reduced.
- **Innovation:** Knowledge spillovers and the interaction with co-located companies and research institutions stimulate new ideas and create pressure to innovate. Clusters offer improved access to information and finance and lower the cost and risk involved in developing new products.

- **Internationalisation:** Clusters have a strong track-record in the area of investment attraction and export promotion. They can raise the profile and visibility of countries and regions and allow a convincing argumentation in line with the needs and location search process of investors. At the same time, clusters can improve the access to (new) export markets for domestic companies.
- **Skills development:** The proximity of the players and the existence of common needs form a good base for skills development efforts. The cluster environment can facilitate the alignment of the vocational training system and the offer of universities to the needs of companies.
- **Initiating business environment reforms:** Clusters often are a catalyst for business environment reforms. Through dialogue at the cluster level, new partnerships can be forged that help initiate and expedite policy reforms. Clusters can be used as a laboratory to test reforms.

These findings indicate that the cluster approach provides promising opportunities to address a number of major challenges related to managing structural change in the short and long run in Ukraine. In this context, investment / export promotion, innovation and competitiveness as well as job creation and skills development represent areas of strategic importance in which clusters can be leveraged to increase the efficiency of policies and instruments.

The Lviv IT Cluster which is introduced below shows that clusters can be successfully developed in the Ukrainian context.

Cluster Example: Lviv IT Cluster

The Lviv IT Cluster has been established in 2011 based on the competitiveness strategy developed for the city. The membership comprises about 35 companies employing 7,000 employees as well as local universities and government institutions which cooperate in the following areas:

- **Promotion:** *The Lviv IT Cluster is a partner and organiser of several events. Amongst others, it organises the Lviv IT Arena which is with more than 1,000 participants and 100 speakers one of the largest IT conferences in Ukraine. Furthermore, as part of the Lviv IT Tour, a roadshow with conferences in Kyiv, Vinnytsia, Dnipropetrovsk, Kharkiv and Odessa has been carried out. Members benefit from the promotion and loyalty programme Lviv IT Club which is supported by 200 partners and offers discounts on accommodation, traveling, flight tickets and other services.*
- **Education:** *Every year, the Lviv IT Cluster supports an IT Competition at schools in collaboration with Lviv City Council and Lviv Polytechnic. The project IT Expert aims at modernising the curriculum of programmes at Lviv Universities. Together with Lviv Business School, a new master programme in technology management has been developed. With respect to recruitment, cluster members benefit from a unique database of Lviv IT School graduates.*
- **Infrastructure:** *The cluster develops innovative housing projects, e.g. the IT House offering 72 apartments, underground parking and a roof terrace to be completed in 2017.*
- **Business development:** *The Lviv IT Cluster has a representative office in Poland which helps member companies to open offices in EU countries and provides visa support. A law committee comprises lawyers of cluster members. It provides assistance to companies in legal matters and develops recommendations on current legislative and regulative issues in Ukraine. Furthermore, the cluster provides market related information, e.g. research on the Lviv IT market and industry.*

The cluster is organised in the legal form of an association. The cluster management has currently eight employees and is financed by membership fees and paid services.

Furthermore, it should be highlighted that cluster support is in line with the objective of decentralisation and can be implemented with a stage-based approach which is highly relevant in the Ukrainian context. In such an approach, the focus of instruments is shifted in line with the progress made in the structural transformation process. A number of countries have successfully followed a

development path applying a rather FDI and export driven approach at an early stage and focusing more strongly on innovation and upgrading at a later stage of transition and development.

However, experience around the globe also shows that not every geographic concentration of companies can be developed into a cluster and that the benefits associated with cluster development do not emerge automatically in all cases. Certain preconditions have to be met which relate in particular to the structural characteristics and cooperation culture of the (emerging) clusters to be promoted as well as to the corresponding framework conditions. Those factors need to be considered in the selection of clusters and the design of the support and funding mechanisms which are discussed in the following chapters.

3. Outline of a Ukrainian cluster support programme

The main objective of a Ukrainian cluster support programme should be to facilitate growth and employment by initiating and supporting cooperation-based innovation and internationalisation processes in clusters with a substantial development and investment potential.

The proposed design of the programme is based on the following principles:

- **Integrated approach:** The programme should be considered part of a comprehensive strategy to strengthen competitiveness. It should not be a substitute for reforms. Clusters should be used as a test-lab and catalyst for business environment reforms. An effective policy advice function should be integrated into the programme.
- **Targeted approach:** Given limited financial resources available, funding should be targeted at a narrow range of sectors and clusters which offer a high development potential and can make a significant contribution towards the programme's objectives.
- **Bottom-up approach:** The programme should contain a strong bottom-up element. The selection process should ensure an openness to emerging and existing clusters that show a willingness to participate and meet the programme's requirements. The selection criteria should be developed in close collaboration with the stakeholders from the private and public sector.
- **Private sector driven approach:** Cluster development should be driven by the private sector. It should generate tangible benefits which motivate the private sector to co-finance activities. Commitment from government is of critical importance – to convince companies to buy in. However, government should take over the role of a facilitator and participant, not as the leader.
- **Decentralised focus:** In line with the regional dimension of clusters, the programme should have a strong decentralised orientation.
- **Coverage of the entire life cycle of clusters:** A phased approach seems to be advisable considering the differing stages of development of clusters. Different maturity levels correspond with different support needs. The programme should flexibly cater for those different needs and transfer experience between participating clusters.
- **Regularly monitored performance and impact targets:** Clusters should be supported in return for the achievement of clear targets related to the activities as well as to the outcome and impact.
- **Low administrative burden:** The programme should keep the administrative burden for participants to a minimum – without infringing on monitoring requirements.

Taking into account those principles, the main focus of a Ukrainian cluster support programme should be on setting up and strengthening a limited number of cluster management structures at the regional level which facilitate and support cooperation-based innovation and internationalisation processes in the individual clusters.

Considering the experience of the Lviv IT Cluster as well as international good practice, the programme should support cluster management structures covering the following portfolio of services and activities:

- **Information, matchmaking and cooperation platforms** (e.g. regular dissemination of market-/ technology-related information, networking events, working groups)
- **Business development and internationalisation** (e.g. trade fair visits and participations, B2B matchmaking, export networks, joint approach of potential customers, targeted investment promotion campaigns to develop value chains, participation in international projects, twinning with similar clusters abroad)
- **Development and upgrading of skills base** (e.g. tailored training programmes, job exchanges and fairs, collaborations between companies and schools / universities)
- **Start-up and innovation support** (e.g. identification of partners and funding sources for collaborative innovation / R&D projects, initiating incubators or accelerators, initiatives to strengthen science-industry linkages)
- **Initiation of specialised infrastructure projects** (e.g. concepts for incubators, science or industrial parks)
- **Cluster marketing** (raising awareness of the cluster and its members at the regional, national and international level, e.g. website, newsletter, cluster atlas).

The two examples from Slovenia and Hungary below illustrate the outlined service and activity portfolio.

Cluster Example: Automotive Cluster of Slovenia – ACS (Slovenia)

The Automotive Cluster of Slovenia was established in 2001 as part of a pilot cluster programme initiated by the Slovenian Ministry of Economics. The automotive cluster was one of three pilot clusters that had been selected based on the interest expressed from the industry. Technical support for the development of cluster structures was provided by the Dutch Government.

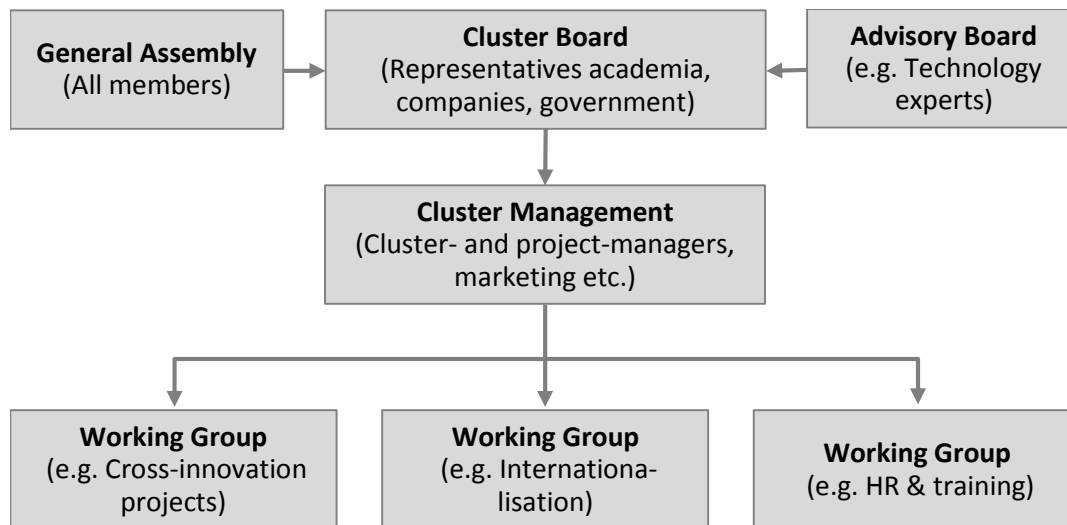
The ACS currently has 63 members including 6 research and development institutions. The cluster management has four employees including the cluster manager and administrative staff. The steering structure comprises the general assembly of all members and a supervisory board. The cluster is partly funded by membership fees ranging from 500 EUR to 3 500 EUR depending on the type and size of the member. In addition, the cluster receives support from the government and secures external funding on a project basis.

The main objective of the cluster initiative is to provide support for its members to integrate into global automotive value chains and to improve the range and quality of their products and services. Cluster activities have evolved and expanded over time and include the facilitation and coordination of cooperation and R&D projects, organising annual conferences, joint trade fair stands and marketing activities as well as advising national authorities on issues related to the automotive industry. Furthermore, the cluster is participating in multiple EU projects and networks.

The regional cluster management organisations should have a structure that ensures the integration of the key stakeholders and their competencies. As shown in figure 1 on the next page, in addition to the operative cluster management, organisational models often contain a cluster board which consists of representative from companies, government, research and educational institutions. Depending upon the strategic focus, some organisational models also comprise advisory boards with technology experts. Working groups are considered to be an important tool not only to involve cluster members but also to stimulate cooperation.

Figure 1

Typical organisational model of cluster management organisations



The legal form of a cluster management organisation should be selected in line with the strategic focus of the cluster, considering in particular the role of commercial activities and the openness for new members. Often, cluster structures are organised in the form of an association or private limited company. In some cases, hybrid models are used.

Cluster Example: Innoskart (Hungary)

Innoskart is one of several Hungarian ICT clusters and has more than 50 members including three universities, a research centre and a knowledge centre. The cluster's focus areas are (1) IT security solutions, (2) intelligent buildings, (3) wireless sensor networks and (4) telemedicine. Members are 75% SMEs including both ICT companies and non-ICT companies in fields related to the focus areas.

The cluster was established in 2006 by 11 enterprises that had already been cooperating (bottom-up approach). In 2012 Innoskart became an accredited innovation cluster as part of a Hungarian cluster promotion initiative and has been receiving national level funding since then. The accreditation has had the added effect of boosting membership, because each member of an accredited cluster is eligible for a 10% top-up on national R&D funding support.

The cluster has a strategic managing board that is selected by all members and is serving for 5 years at a time. Operations are run by Innoskart Nonprofit Business Development Ltd. which has three employees including the cluster manager, a communication manager and an innovation manager. Core activities comprise:

- *Research and development support such as the facilitation of cooperation and information on funding opportunities*
- *Improving business performance through training services and information on market opportunities*
- *Internationalisation support through e.g. trade fair visits, study tours and partner clusters*
- *General networking and cooperation facilitation*
- *Advising government on cluster and innovation policy*

With a phased approach, the programme should cover the entire life cycle of a cluster. The preparation phase forms the starting point comprising the necessary analytical and conceptual tasks

as well as stakeholder engagements to set up a cluster management. This includes in particular the needs analysis, cluster diagnostics, vision building, action planning and the organisational concept. The set-up phase should fund the actual establishment of the cluster structure and the start of the implementation of the action plan and delivery of the defined services. In addition, the support should cover the growth / consolidation phase of established or already existing clusters. During this phase, the service and activity portfolio of clusters should be broadened and deepened. Particular emphasis should be on initiating innovation, skills development and infrastructure projects.

In addition to the support for regional cluster management structures, a lean coordination and exchange mechanism should be integrated into the programme to generate synergies between the regional clusters (e.g. common branding, training for cluster organisations, policy advice etc.). It could be an option to contract an existing organisation for the coordination unit. For instance, in Germany, the Federal Ministry for Economics and Technology (BMWi) appointed VDI / VDE Innovation + Technik GmbH, a private innovation support provider whose shareholders include major industry associations, to support the member clusters of the programme “Kompetenznetze Deutschland”.

The programme should be based on a new allocation of roles between private and public sector and between government levels which could serve as a model for future initiatives. The role of central government should focus on

- 1. Acquisition of international funding** for the cluster support programme
- 2. Defining eligibility criteria for participating regional clusters** (e.g. industry, offered services, number and structure of members) based on stakeholder consultations
- 3. Facilitating a competition based funding procedure:** Teams from the regions (public / private sector, academia) should jointly express their interest and take over the responsibility for the implementation of the proposed cluster activities
- 4. Taking up ideas for business environment reforms** identified in the process.

Those tasks could be coordinated by one senior official of the Ministry of Economic Development and Trade. There is no need to set up a new department or agency.

3.1 Identification of promising clusters

Taking into account the Ukrainian context, it seems advisable to start the cluster development process with a limited number of pilot clusters (e.g. five) while in parallel the roll-out of a larger scale programme can be prepared. Due to the current economic situation, there is a high pressure to generate impact as early as possible. Therefore, the time spent on preparatory analyses before the launch of the implementation process should be kept to a minimum. Cluster development is a participative process which needs to build up momentum. Pilot initiatives creating tangible benefits can make an important contribution towards raising awareness and motivating stakeholders. They also help to gather first-hand experience – e.g. regarding needs, suitable services, institutional and funding mechanisms – which can be used to prepare the roll-out of a larger scale programme.

Considering the challenges and opportunities of the Ukrainian economy and the international experience outlined, the pilot clusters should, in particular, offer a promising potential with respect to internationalisation (investment attraction, export promotion / diversification), employment creation and skills development, innovation and upgrading.

Furthermore, they need to have a sufficient critical mass and geographic concentration to generate synergies and attract investment. A balanced mix of SMEs and large anchor companies provides a sound basis. Cluster support efforts aimed at concentrations which are dominated by large state-owned companies without a sufficient basis of innovation-oriented SMEs or at industries which are

geographically too widely dispersed are not likely to generate the expected impact. In those cases, interventions from other policy areas (e.g. modernisation, privatisation, regional, sectoral policy) are more promising.

Cluster development also requires shared interests and a willingness to collaborate between the players. Successful clusters are characterised by common challenges and opportunities (e.g. technology- or market related) and a variety of formal and informal relationships which are based on dialogue and trust. Table 1 below summarises the selection criteria for pilot clusters.

As part of the research for this paper, a quick scan has been carried out involving interviews with experts from companies, associations, government and finance institutions as well as an appraisal of available industry studies and statistics.

According to the findings, the IT and automotive industry – focusing on automotive suppliers which are less affected by the economic crisis than vehicle manufacturers – offer promising conditions and potentials for the development of pilot clusters.

Table 1

Selection criteria for pilot clusters

Category	Criteria
Internationalisation	<ul style="list-style-type: none"> • Potential to attract foreign investment <ul style="list-style-type: none"> - High visibility - Tangible benefits and convincing arguments for investors - Promising investment potentials • Potential to increase and diversify exports
Employment and skills development	<ul style="list-style-type: none"> • Potential to generate substantial and sustainable employment effects covering a wide spectrum of qualifications • Potential to upgrade the skills base
Innovation and upgrading	<ul style="list-style-type: none"> • Potential to foster innovation activities promoting ... <ul style="list-style-type: none"> - linkages between companies and universities / research institutions - collaborative innovation activities of companies • Potential to upgrade value chains • Potential of spill-over effects in related industries
Critical mass and cooperation climate / mechanisms	<ul style="list-style-type: none"> • Critical mass and sufficient geographic concentration of players • Balanced mix regarding size and ownership • Already existing (in)formal platforms for dialogue and cooperation • Interest in collaborative cluster development efforts
Scope of instruments and mechanisms that can be applied	<ul style="list-style-type: none"> • Potential to develop and test a wide spectrum of instruments and mechanisms • Coverage of spectrum of policy and service areas • Opportunities to test different institutional set-ups

Both industries are very export-driven and have a strong track-record with respect to attracting foreign investment. In the automotive supplier industry, a number of internationally renowned companies – amongst others in the area of wiring systems and electric components (e.g. Leoni, Tyco, Delphi, Flextronics, Sumitomo) – has established production facilities in the recent past. Also, the IT industry is characterised by strong international linkages. In both industries, the Ukraine can offer a number of concrete benefits for investors – e.g. related costs or specific skills and expertise – which provide a good basis to derive convincing investment scenarios and to raise awareness amongst potential target groups.

Despite the current economic crisis, both industries show a strong export performance. The automotive supplier industry, in particular in the Western part of Ukraine, is dominated by export-oriented operations. There is a potential to strengthen linkages to domestic companies and SMEs and to assist domestic companies with cooperation-based cluster development instruments to enter new markets. The majority of the IT industry's revenues which are estimated at USD 2.6 bn for 2015 are generated from abroad. According to the expert interviews, there is a considerable potential to further increase the export revenues.

Both industries play an important role for job creation in Ukraine. At the same time, a shortage of skilled labour and specialists poses an increasing challenge which could be addressed as part of a cluster programme. In the automotive supplier industry, a number of companies operate large-scale labour-intensive facilities with more than a thousand employees. Early investments focused on the border region in the West. Due to a shortage of labour in that region, geographic dispersion has increased. According to estimates, there are currently approximately 80,000 specialists working in the Ukrainian IT industry. Forecasts expect that the industry could absorb up to 180,000 specialists in 2020. Against this background, a key challenge relates to ensuring that skills and expertise can be retained in the country and that a sufficient number of new qualified specialists enter the market.

With respect to the innovation potential, in particular the IT industry offers favourable conditions – considering e.g. an upgrading process from outsourcing activities towards the provision of IT solutions or spill-over effects into other industries. Cluster development could, for instance, focus on strengthening the linkages between companies and universities / research institutions and on developing regional ecosystems including incubators and accelerators. In the automotive industry, the level of value addition and innovation is currently still rather low. Efforts could focus on value chain development and on fostering linkages between foreign and domestic companies.

The automotive supplier and IT industry could also meet the requirements regarding the critical mass. Referring to estimates from industry experts, the automotive suppliers industry comprises – if one applies a wider definition including suppliers of transport equipment for agriculture – approximately 120 – 150 companies (foreign and domestic) which could be targeted as part of a cluster initiative. Cooperation activities and platform are still at an early stage of development. However, first (in)formal collaborations have already been initiated, e.g. helping out with scarce parts on an ad hoc basis or joint training programmes.

The IT industry definitely fulfils the criteria in this respect. Amongst others, there are strong regional concentrations in and around Kyiv, Lviv, Kharkiv, Odesa and Dnipropetrowsk. Policy measures can build upon already existing cooperation platforms. As mentioned above, in particular in Lviv, cluster management structures are already well advanced. The existing activities confirm an interest from the private sector which includes a willingness to co-finance initiatives offering tangible benefits.

The combination of automotive and IT pilot clusters allows to test support measures as well as institutional models in two industries which differ significantly with respect to their structural characteristics and the expected needs of the players. This scope will be very helpful to test and refine the approach prior to the roll-out of a larger scale programme.

For instance, the IT industry with its small-scale structure and concentrations in and around various cities could have a more decentralised approach, possibly involving three to four regional clusters. In the automotive industry, support could be focused on one or two cluster/s which is/are likely to cover a larger region. Clusters in both industries should have a strong focus on employment and skills development – probably with different constellations and target groups. Considering potential development trajectories, the focus of an automotive cluster should be more geared towards investment promotion – in particular at the initial stage. The IT industry seems to offer more favourable conditions to test an approach which focuses more strongly on developing an innovation-oriented ecosystem (e.g. fostering linkages between companies and universities / research institutions, strengthening and aligning the educational institutions to ensure a sufficient pool of IT

specialists, developing specialised infrastructure). According to the interviews, cluster support measures should be complemented by business environment reforms. Experience and instruments developed can be transferred between the different pilot clusters.

In conclusion, the findings of the quick scan indicate a strong fit between the proposed pilot clusters, the identified challenges and opportunities of the Ukrainian economy and criteria derived from international experience. Table 2 below compares key features of the IT and automotive industry and summarises conclusions regarding the design of cluster support measures.

Table 2

Relevant industry characteristics and focus of cluster support measures

	IT	Automotive (suppliers)
Development and cluster potential	<ul style="list-style-type: none"> • Strong track record regarding FDI, exports, job creation • High potential for upgrading (outsourcing → IT solutions) • Existing initiatives (e.g. in Lviv) confirm interest of industry in clusters 	<ul style="list-style-type: none"> • Strong track record regarding FDI, exports, job creation • Currently rather low level of innovation, potential to develop value chains • Initial collaborations, cooperation activities / structures less developed than in IT
Geographic focus of cluster support	Support 3-4 clusters in and around cities, e.g. Kyiv, Odessa, Dnipropetrovsk	Support 1-2 larger regional clusters, e.g. Western Ukraine
Focus of cluster activities	<ul style="list-style-type: none"> • Strong focus on retaining talents, enhancing skills base and developing innovation-oriented ecosystem • Potential to support cluster development with complementing reforms 	<ul style="list-style-type: none"> • Strong focus on investment attraction • Awareness raising of major importance • Skills development and promotion of linkages between domestic and foreign companies in the medium term

3.2 Necessary resources and funding model

A sustainable financing model for regional clusters should encompass:

1. **Base public funding** (e.g. from government / international organisations)
2. **Revenues generated** (e.g. membership fees, income from cluster services such as trade fair visits)
3. **Third-party funding** (e.g. private funding for investment projects, international or state research programmes).

Considering international experience, start-up financing should be provided by the public sector / international organisations. A degressive funding model is proposed motivating the clusters to generate revenues and identify alternative sources of finance. While 100% of the eligible costs in the preparation phase should be covered, the rate could be reduced during the subsequent phases.

The funding volume is estimated at about EUR 5 m for a five year period. The estimate is based on the following assumptions:

- It is expected that in the beginning five regional pilot clusters (e.g. 3-4 IT and 1-2 automotive clusters) are selected for support by the programme.

- Funding is provided for the preparation phase (e.g. needs analysis / cluster diagnostics, vision building / action planning, design of an organisational model) as well as for the set-up phase (setting up cluster management, implementing action plan) and the growth / consolidation phase (refining / extending action plan and service portfolio, continued implementation).
- The preparation phase lasts about 6 months. The set-up phase covers 30 months. The growth / consolidation covers another 24 months. So, in total the programme could support clusters during a period of 5 years.
- A regional cluster management requires about three employees to cover an adequate service and activity portfolio in the beginning (e.g. a cluster, marketing and innovation manager).
- Considering salaries, costs for an office, a basic set of services (e.g. information and cooperation platforms, business and skills development, innovation support, networking) and conceptual work necessary to initiate further projects, the necessary funding volume is estimated at about EUR 150,000 per cluster and year in the IT industry and at about EUR 250,000 in the automotive industry. A cluster in the automotive industry is likely to require a higher volume due to the stronger focus on investment promotion activities. Furthermore, it might be necessary to recruit for a position at the international level, e.g. for international business development activities.
- For the coordination and exchange mechanism, a budget of EUR 50,000 – 100,000 p.a. is needed (e.g. for international relations, communications, training of cluster organisations).
- These items add up to an annual funding volume of about EUR 1 m.

The assumptions and estimates should be considered as a proposal to be discussed and refined in further consultations.

4. Way forward

The findings of the research and expert interviews carried out strongly indicate that the cluster approach can address a number of major challenges related to managing structural change in the short and long run in Ukraine. As pointed out in chapter 3, it is recommended to start the cluster development process with a limited number of pilot clusters to generate impact as early as possible, to raise awareness and motivate the stakeholders. According to the results of the conducted quick scan, pilot clusters in the automotive and IT industry provide a promising opportunity to test and refine a cluster support programme creating tangible benefits at the company as well as regional and national economy level at the same time.

A policy decision by the Ministry of Economic Development and Trade would form the starting point for the implementation of a cluster support programme in Ukraine. As a next step, a workshop with stakeholders (private / public sector and academia) could be carried out to raise awareness and discuss key features and mechanisms of the programme. The workshop would also provide an opportunity to assess the interest to participate amongst stakeholders. Taking into account the results of the discussions, the programme could be refined and finalised.

As a next step or in parallel, international organisations could be approached regarding the financing of the cluster support programme. Many similar programmes in Eastern Europe have been supported by international organisations providing finance and technical assistance.

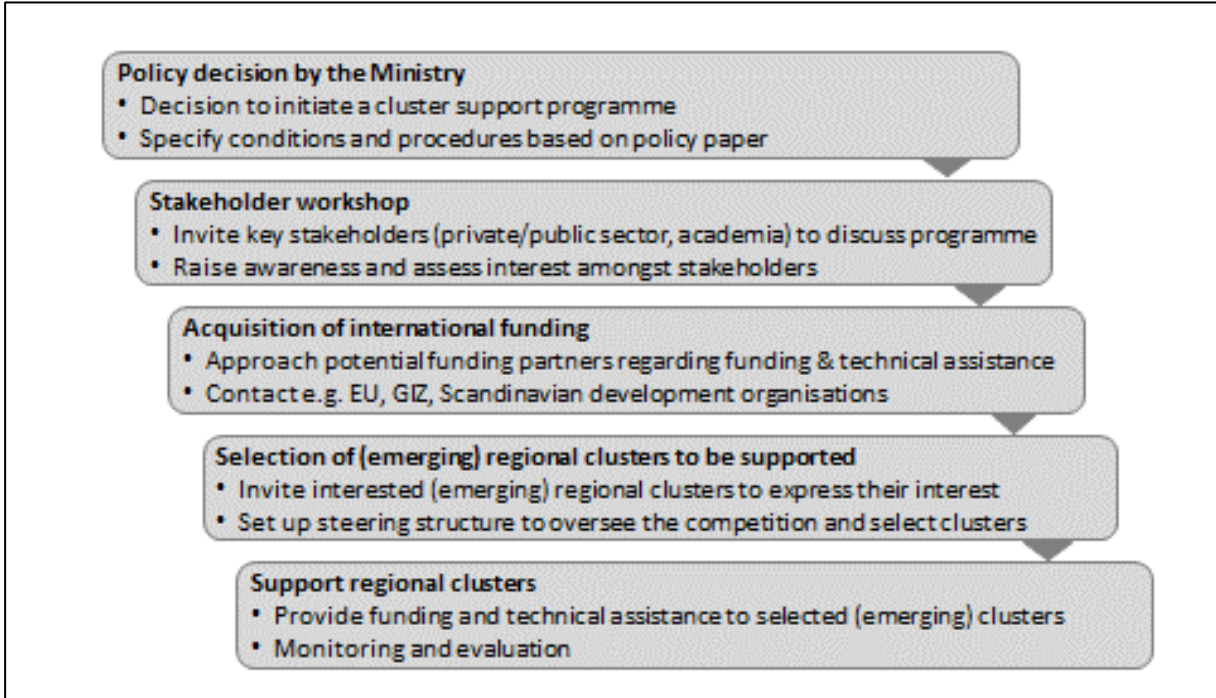
Once the financing has been adequately secured, the process of selecting the (emerging) regional clusters for the pilot phase could be started. Interested clusters meeting the eligibility criteria would be invited to express their interest and apply for the funding on a competitive basis. A steering committee with experts and stakeholders from the private sector, government and academia could be set up which could oversee the competition and select the clusters to be supported by the programme.

On this basis, the selected clusters could now be provided with the technical assistance and funding outlined in the previous chapter (e.g. for needs analyses, vision building / action planning, setting up cluster management structures, implementing activities etc.) and the corresponding monitoring and evaluation mechanisms could be established.

The figure below summarises the next steps to initiate the pilot phase.

Figure 2

Major steps to initiate the implementation of the cluster support programme (pilot phase)



In parallel with the implementation of the pilot initiative, a comprehensive assessment of the development potential of further clusters could be carried out to prepare the roll-out of a larger scale cluster programme. The cluster identification process should commence with the consultation of experts who have a thorough understanding of the industrial landscape in Ukraine and can provide a first assessment of industry agglomerations to compile a long-list of potential clusters throughout the country. In addition, a survey at the regional level could be conducted to ensure that information on all regions is comprehensive.

While the process of cluster identification should mainly rely on qualitative measures – which can be applied easily and capture crucial contextual information – a quantitative analysis can provide additional “hard” facts and a level of standardisation. This can help to justify policy decisions and to compare clusters across regions and sectors. Thus, as needed and possible, a basic quantitative assessment of the cluster landscape should be integrated using e.g. localisation quotients.

The results could be discussed at a “cluster workshop” with experts, relevant stakeholders and decision makers to prepare a short-list of potential clusters for further analysis. A detailed mapping should be carried out analysing the structural characteristics as well as the forms of cooperation, the institutional integration, transaction and communication relationships. The derived cluster profiles which include the level of maturity and support needs allow an informed decision on clusters to be covered when the larger scale cluster development programme is rolled out.

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