Process Monitoring of Impacts

Proposal for a new approach to monitor the implementation of *'Territorial Cooperation'* programmes

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The present paper has been commissioned by the INTERACT Point Managing Transition and External Cooperation (MTEC)in Vienna, as a complement to the comparative *'Study on Selected Monitoring Systems'* in use by INTERREG III Programmes across EU - 25.
This paper builds on a previous research project funded by the Austrian Federal Chancellery (Division for Co-ordination of Spatial and Regional Policies) to identify viable alternatives to current monitoring practice in Structural Funds. The methodology which has been developed in the framework of this project is called *'Process Monitoring of Impacts',* and it has been tested with Structural Fund Programmes in several pilot - applications both at project (INTERREG IIIB) and measure level (INTERREG IIIA, Objective 2).

The purpose of the present paper is to provide INTERREG authorities and *'Objective 3 bodies'* with a guidance text for the application of this innovative monitoring approach with Territorial Co-operation programmes (cross-border and trans-national strand). It describes the activities to be carried out (illustrated with INTERREG examples) and highlights crucial aspects to be taken into account during programming and ex-ante evaluation as well as during the implementation of programmes or projects.

Process Monitoring of Impacts was briefly presented by the author at the INTERACT Event *'Between Enlargement and the New Period'* in November 2005 in Trieste, Italy. At this occasion, several INTERREG authorities have expressed their interest in learning more about this approach and eventually applying with their programmes. The INTERACT Point MTEC therefore is offering initial support for INTERREG authorities who are interested in applying Process Monitoring of Impacts in the preparation of their new programmes.

Several Austrian INTERREG authorities already envisage applying this method in the preparation of Territorial Cooperation Programmes, mainly by using it in the framework of ex-ante evaluations. Provided that these applications actually take place, the INTERACT Point MTEC will sponsor the elaboration of a follow-up paper, which will contain case studies and a synthesis of experiences gained with these pilot applications at programme level.

As mentioned in the executive summary this paper describes how Process Monitoring of Impacts can be applied with Territorial Cooperation Programmes. It presents the main activities, which have to be carried out and key aspects, which should be considered, both during programming or ex-ante evaluation and during implementation.

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EXECUTIVE SUMMARY

Monitoring has become a demanding task, which consumes substantial time and resources from monitoring staff that process data and produce reports, from programme authorities who assure data input – and from project owners who are requested to provide this data, mainly via reports. But the utility of these efforts is limited and increasingly being questioned: On one hand present Monitoring Systems are essentially input driven and focused on inputs and outputs. On the other hand they aim at monitoring programme implementation via quantified data and thus only contain indicators. This is particularly inconvenient for programmes like INTERREG, whose core features are co-operation processes which are difficult to capture via figures only.

The problems and limits of present Monitoring Systems are widely acknowledged by programme authorities and practitioners in the Member States, but also by the EU Commission. The Draft Structural Fund Regulations foresee a clear focus of Monitoring and Evaluation towards impact and strategic goals. And the new *'Working Paper on Indicators'* recommends complementing present input driven Monitoring Systems with a more impact-led approach and emphasises result indicators as a core instrument for programme management. In addition, for Territorial Co-operation programmes it is suggested to put more emphasis on process aspects.

But the approach proposed in this Working Paper essentially foresees an increase in the use of result and impact indicators as well as better quality for strategic indicators through more refined methods for identifying and quantifying them. However, the use of indicators has only limited value for capturing impacts, because the information arrives rather late and it is often difficult to provide evidence for the links between effects and programme activities. Moreover, impact achievement is a doubtful measure for the effectiveness of a programme, because it is due to many other factors and the influence of programme actors is relatively small.

Thus, what programme actors can (and should) be made accountable for are not impacts, but the tasks for which they are responsible - and on carrying out these tasks in a manner that effectively influences the behaviour of other actors in the desired direction and therefore makes it more likely that impacts will be achieved. But this requires a different approach to monitoring, which also looks at the processes that are expected to lead to results or impacts – and not just at indicators as their final measure. This will provide early information for programme actors on the likeliness of achieving results or impacts and focus can be placed on those domains, which can be influenced by them or for which they are responsible.

Process Monitoring of Impacts is presented in this paper as a viable approach in this direction. It is a blend of concepts, which have originally been developed in development aid and have been adapted to the needs for monitoring projects or programmes in the area of structural policy. The method builds on the basic assumption that inputs as well as outputs have to be used by someone in order to produce desired effects. Thus focus is placed on those uses of inputs or outputs (by project owners, target groups, implementing partners, etc.), which are considered decisive for the achievement of effects and can be influenced by the operators of a programme.

Process Monitoring of Impacts is an instrument for managing and steering interventions, with the aim to identify processes that are relevant for the achievement of intended effects and to collect data or information, which are required in order to observe these processes. The main challenge is to identify the likely connections between inputs, outputs, results and impacts and to check during implementation whether these links remain valid and actually take place.

Process Monitoring of Impacts consists of four main steps:

1. Identify areas of intended effects (results, impacts)
2. Derive / agree on hypotheses for the achievement of effects
3. Define areas of observation to monitor these processes
4. Data assembly and interpretation

The paper describes these steps and illustrates them with an INTERREG application example (cross-border business networks). Process Monitoring of Impacts is particularly helpful with soft measures, which mainly produce intangible results that are difficult to capture via quantitative indicators. But this method can also be applied with *'hard'* measures / projects (e.g. infrastructure, tangible investments) which can normally be captured quite well by quantitative indicators. Yet here as

well information on result / impact indicators might arrive too late and is therefore not suitable as a management tool. In this case, Process Monitoring can produce relevant informant rather early and signal areas of improvement to management. Based on the experience gained so far with pilot applications in Austria, Process Monitoring of Impacts appears well suited to be applied in monitoring Territorial Co-operation Programmes:

- It is very appropriate for addressing the challenges posed by this new objective, as the programmes will mainly consist of soft measures and *'open-ended'* tasks, whose crucial processes are difficult to be covered by present indicator-based Monitoring Systems.
- As it orients the observation of programme authorities and other involved actors (project owners, implementing partners) towards the achievement of objectives, it can complement present in-put driven Monitoring Systems with an impact-led approach. This is in line with Commission proposals to reorient the entire SF programming system towards impact.
- It can lead to a clearer distinction of monitoring activities in line with the logics and information needs of the actors involved:
  - The electronic Monitoring System will contain controllable and quantifiable data, which is formally required by programme administrators at higher levels (managing authority, EU Commission) and for reporting to the political level or a wider public.
  - Process Monitoring of Impacts will provide qualitative and quantitative information for implementing agents (within or outside the public administration) and for other professionals (e.g. evaluators). These activities take place outside the formally required Monitoring System, provide feedback and facilitate learning in order to improve implementation.

The final chapter of this paper describes how Process Monitoring of Impacts can be applied with Territorial Cooperation Programmes. It presents the main activities, which have to be carried out and key aspects, which should be considered, both during programming or ex-ante evaluation and during implementation. The main consequence for Electronic Monitoring System will be the streamlining of their contents, focusing on those aspects where quantified data is meaningful and collection can be managed quite easily. Concerning procedures for observing process assumptions, a major challenge of this (and any other) monitoring approach will be to limit the workload of administrators. Proposals are made how this work can be integrated with activities that take place anyway.

Process Monitoring of Impacts leads to the establishment of a comprehensive Management Information System, which combines existing elements and procedures in an interconnected manner: Electronic Monitoring Systems, Applications, Reports, Contacts / meetings with applicants, project assessment, evaluation. The innovation therefore lies not in the individual elements, but in their new and creative combination. Thus Process Monitoring of Impacts essentially consists in a coherent framework for knowledge management at programme level. And it can be supported by the work of evaluators; especially if evaluations are focused on joint reflection and learning that are carried out in a climate of partnership, mutual respect and trust.

However, in order to be applied most effectively there needs to be a shift in resources and attention on several aspects:

- From planning to reflected management of implementation: This is in line with EU Commission proposals to simplify programming and provide utmost flexibility for evaluation. But the Commission services as well as programme authorities in Member States must consciously decide to spend less time and resources for preparing programmes and more on monitoring and evaluation during the implementation process. Process Monitoring of Impacts will best be carried out if embedded in a framework of on-going evaluation, which is equally advocated by the EU Commission.
- From monitoring of (quantifiable) indicators to monitoring of processes: Differentiating monitoring activities as proposed above should lead to a substantial reduction of data in the electronic Monitoring System. This will in turn reduce the workload of administrators to fulfil formal requirements and should allow spending more time and resources to monitor processes and to establish a corresponding learning system.
- From quantifying data to identifying crucial processes: Defining core process assumptions helps to clarify the *'theory of action'* and provides orientation for a series of implementation issues (e.g. assessing and selecting project proposals, identifying information needs). It is also the basis for any sound quantification and thus it should

be given priority. Whether quantifications take place (and are even useful) is a secondary issue and will depend on many other factors, e.g. nature of the intervention, availability of valid, meaningful and relevant data, experience of implementing agents.

With programmes of the territorial co-operation strand, the application of Process Monitoring of Impacts would require a paradigm shift in attitudes of Programme Authorities, which consequently leads to quite substantial changes in procedures.

The main modifications would be:

- Focus on objectives: Throughout the project cycle, attention should be on objectives and their attainment. Instead of monitoring primarily activities and (output) indicators, based on the simplistic assumption that through their achievement objectives will be met quasi *'automatically'* – a good illustration for de-facto substituting objectives by indicators!
- Shift in accountability: Project owners should be accountable to achieve their stated objectives – and not the implementation of original work plans. To this end they should only be required to submit an indicative action plan in the application and have the flexibility to modify inputs or activities without having to ask for further permissions (within certain limits which need to be defined). But they have the responsibility to signal to the JTS the need for major adaptations (in terms of funding, timing, even objectives) if the achievement of objectives is at risk. They should also be requested to make corresponding proposals.
- Shift in role of JTS: Their focus of attention should equally be on the achievement of objectives. This would require that they follow implementation much more in terms of contents, shift from monitoring of indicators to monitoring of core processes, communicating with project owners in a much more interactive manner. This might require different skills and expertise of JTS staff, or more involvement of external experts or National Contact Points (who could provide insights in national / regional contexts).

The main procedural changes would be streamlined project applications and simplified reporting. Thus implementing Process Monitoring of Impacts would greatly alleviate the workload of project owners (especially Lead Partners); respond to many of the current issues of discontent – whilst providing much better insights into the operation and likely effects of projects. It would not only reduce the requirements in terms of time and resources to submit applications, but also substantially lower the need for handling project modifications and noticeably limit the paper work involved in reporting. And it would allow a different style of interaction between project owners and JTS staff, which would have more time to engage with project owners in a more direct, interactive manner or to assist in cross-project learning, exchange of experience and good practice.

I. RATIONALE FOR A DIFFERENT MONITORING APPROACH

Present Monitoring Systems in INTERREG Programmes are essentially input driven and focused on input and output indicators. The recent comparative Study on Monitoring Systems commissioned by the INTERACT Contact Point *'Managing Transition'* has confirmed this situation:

- **The bulk of data contained are (financial) inputs and outputs, data on results or impacts are found less frequently and are also hard to collect at project level.**
- **Data is represented in the form of quantified indicators, qualitative aspects are rare and also difficult to handle in an electronic data bank (apart from indicators on co-operation quality which are used in some programmes).**
- **There are no fundamental differences in this respect between the three strands of INTERREG (A, B, C), what differs of course are the number and type of indicators.**

Monitoring has become a demanding task, which consumes substantial time and resources from monitoring staff that process data and produce reports, from programme authorities who assure data input – and from project owners who are requested to provide this data, mainly via reports. But the utility of these efforts is limited and increasingly being questioned:

- **Although quantified (output) indicators might be useful for reporting to other entities (e.g. EU-Commission, Managing Authority), they have little meaning for the implementing agents, because per se they lack explanatory value and cannot be used to derive information needed for improving performance in implementation.**
- **Attempting to monitor programme implementation only via indicators lead to overly ambitious monitoring systems, which contain vast quantity of data, require advanced technical solutions which are often unstable and unreliable – and still lack many aspects which need to be understood in order to effectively steer the implementation process.**
- **There is (too) much dead weight information contained in Monitoring Systems, data that is collected without clear uses or users. And this situation is even more unsatisfactory when taking into account the vast amount of information collected from project owners in the form of reports, which are mainly archived and only to a very limited extent analysed (e.g. by evaluators).**

In addition, monitoring – and corresponding reporting – based on outputs and deliverables can lead to a rather inflexible framework for implementation. Especially when this is done in a mechanistic manner as is the case in some INTERREG IIIB Programmes (e.g. CADSES). Projects are then required to act in conformity with their original applications and are made accountable to strict implementation of planned activities within predefined milestones. And any deviation is per se regarded negative, has to be approved and often leads to renegotiations or even modifications of contracts.

This neglects the need to adapt to changing circumstance in order to ultimately achieve project objectives and results and is based on the assumption of a *'linear'* progression of effects (e.g. output leading to results leading to impacts) which take place quasi-automatic, i.e. irrespective of the actors involved or contextual conditions. But this assumption is hardly valid under the complex implementing conditions of INTERREG projects: Carrying out activities as foreseen is by no means a guarantee that expected results let alone impacts will be achieved, as there are many other (external or internal factors) which are of importance.

This unsatisfactory situation was the rationale for the Austrian Federal Chancellery (Division for Co-ordination of Spatial and Regional Policies) to fund a research project to identify alternatives to current monitoring practice in Structural Funds. The method developed and described below has been tested applied with IIIB projects as well as with Objective 2 and INTERREG IIIA Programmes at measure level.

This work has been documented in two separate papers, which are were produced in English for more widespread dissemination[1]:

- **'Process Monitoring of Impacts – Towards a new approach to monitor the implementation of Structural Fund Programmes, Vienna, April 2005':**
  This paper contains a more extensive description of theoretical background as well as proposals for application with Structural Fund Programmes in general.
- **'Process Monitoring of Impacts - Experience and proposals for use with trans-national co-operation projects, Vienna, June 2005':**
  This paper contains a Manual for the application of the method, brief descriptions of pilot applications with INTERREG IIIB projects as well as an assessment of experience gained.

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[1] Both papers can be downloaded from the website of the Austrian Federal Chancellery (www.bka.gv.at/regionalpolitik/publikationen)

The present paper commissioned by the INTERACT Contact Point *'Managing Transition'* builds on this previous work and describes in more detail how it can be applied in Territorial Co-operation programmes (cross-border and trans-national strand), highlighting crucial aspects to be taken into account during programming and ex-ante evaluation as well as during the implementation of programmes or projects.

II. TOWARDS IMPACT – LED MONITORING SYSTEMS

The problems and limits of present Monitoring Systems as described above are widely acknowledged by programme authorities and practitioners in the Member States, but also by the EU Commission:

- The Draft Structural Fund Regulations foresee – in line with a more strategic orientation in the programming documents - a clear focus of Monitoring and Evaluation towards impact and strategic goals. Article 45 in particular stipulates that *'Evaluations shall appraise the impact of Fund assistance and the implementation of operational programmes with respect to the strategic objectives of the Community, to Article 158 of the Treaty and to the specific structural problems affecting the Member States and regions concerned.'*
- The new *'Working Paper on Indicators'* recommends to complement present input driven Monitoring Systems with a more impact-led approach. In this respect section 3.3. emphases result indicators as a core instrument for programme management: *'The difficulty is that impact indicators by their nature are often available only after a considerable time lag and they often need substantial methodological input in order to be valid. Output indicators, on the other hand, deliver only information about the physical, not the socio-economic, effects of an action. In practical terms this gives a special importance to result indicators for the management of a programme as a whole during the implementation of an intervention. Therefore the Commission wishes to encourage the Member States to concentrate their efforts on the improvement of the quality of this category of indicator'.*

For Territorial Co-operation programmes the Working Paper suggests to put more emphasis on process aspects. Section 4.6. recommends to *'pay special attention to process issues and use them for monitoring and evaluation'.* Moreover, *'indicators are just another instrument for effective management with an intrinsic potential and limitations. For instance, indicators may distract the attention of programme managers from important, but unexpected impacts or from major process issues. Therefore for some actions (e.g. support for RTD, innovation, territorial co-operation) it might be especially difficult to collect meaningful information on results and impacts. Here the collection of process-related information, on the development of capacities and competences of stakeholders can be an instrument to support programme managers in their management and reporting'.*

But the approach proposed in this Working Paper essentially foresees an increase in the use of result and impact indicators as well as better quality for strategic indicators through more refined methods for identifying and quantifying them.

However, the use of indicators has only limited value for capturing impacts:

- Indicators are not well suited for complex situations as they only capture a narrow part of reality, reflect isolated phenomena and lead to widespread preference for measurable data and short-term effects. Moreover, there is a risk that indicators are (mis)used as substitutes (and not as observation tools) for stated objectives.
- Information on impact indicators arrives rather late, because it can only be produced once the indicator (or the respective quantitative target) has actually been met. Thus they cannot provide information which is relevant for the management of on-going projects / programmes.
- And it is very tempting to claim observable impacts, regardless whether the project / programme under question has actually contributed to their achievement. This is particularly the case with higher-level objectives, where contributions of single factors are easy to claim – but difficult to (dis)prove (i.e. the contribution of a study to improve territorial cohesion). Or in the case of long impact chains, where causes and effects are rather distant from each other, either in time or in functional relations.

Moreover, impact achievement is a doubtful measure for the effectiveness of a programme. As shown in the following figure, there is usually a trade-off between the influence of a programme and other actors or external effects over time:

Fig. 1: *Lines of influence in Structural Fund Programmes*
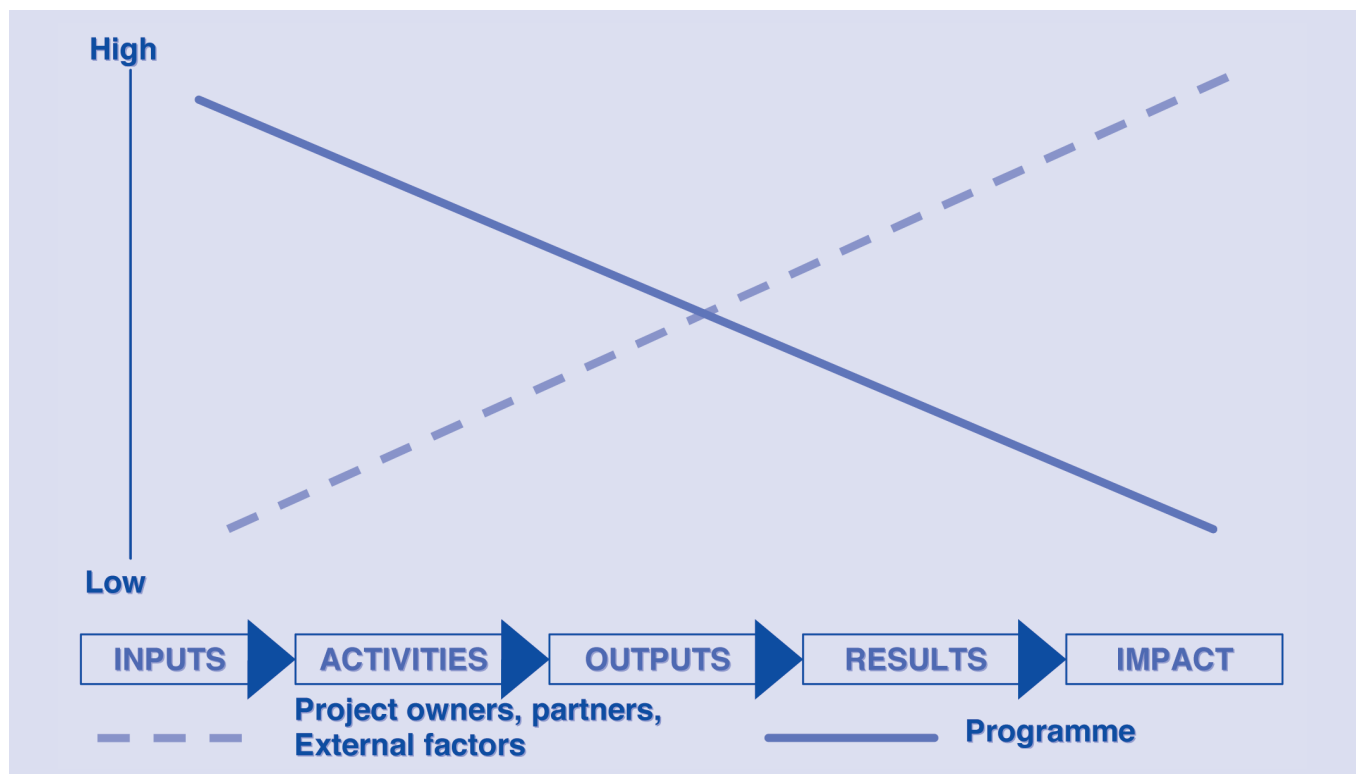
Source: Adapted from S. EARL, F. CARDEN, E. SMUTILO *'Outcome Mapping'*

The influence of a programme is strongest in the early stages, where inputs and their conditions are defined or activities can be foreseen by programme authorities (e.g. information of target groups, support for project generation) which should lead to desired outputs (i.e. projects). But this influence then decreases over time and the influence of other actors (e.g. implementing partners, project owners) or external factors is on the rise and is strongest with impacts,

Thus it would be even paradox to make programmes accountable for impacts, on which – by definition – they have the least influence! What programme actors can – and should – be made accountable for are the tasks for which they are responsible – and on carrying out these tasks in a manner that effectively influences the behaviour

of other actors in the desired direction and therefore makes it more likely that impacts will be achieved. In short whether *'things have been done right or the right things have been done'* by programme authorities and actors – which are the main sources for identifying areas of improvement!

But this requires a different approach to monitoring, which also looks at the processes, which are expected to lead to results or impacts – and not just at indicators as their final measure. This will allow providing early information for programme actors on the likeliness of achieving results or impacts and focus can be placed on those domains, which can be influenced by them or for which they are responsible.

III. PROCESS MONITORING OF IMPACTS

I. BRIEF DESCRIPTION OF THE METHOD

Process Monitoring of Impacts is an instrument for managing and steering interventions, with the aim to identify processes that are relevant for the achievement of results and impacts and to collect data or information, which are required in order to observe these processes. It is a blend of two approaches, which have originally been developed in development aid (Impact – oriented Monitoring[1]: and *'Outcome Mapping'*[2]), adapted to the needs for monitoring projects or programmes in the area of structural policy.

The method builds on the basic assumption that inputs as well as outputs have to be used by someone in order to produce desired effects. Thus focus is placed on those uses of inputs or outputs (by project owners, target groups, implementing partners, etc.), which are considered decisive for the achievement of effects and can be influenced by the operators of a programme.

Depending on the degree of use and the connection with the project/programme under study, the actual (or expected) effects are classified as:

- Outputs: They are due to direct use of inputs by project owners, closely influenced by activities and implementation mechanisms of a project/programme.
- Immediate impacts (= results): Due to direct use of outputs, which is clearly linked with the project/programme and thus can also be directly influenced (although other factors can be important as well). A result should also be closely related to specific objectives (ideally the two should be identical).
- Impacts: Due to indirect use of outputs, which cannot be causally linked with the project/programme (attribution gap), but can at least be made plausible. Impacts normally relate to higher-level objectives and are much more influenced by external factors.

The main challenge is to identify the likely connections between inputs, outputs, results and impacts and to check during implementation whether these links remain valid and actually take place. The following figure constitutes the framework for Process Monitoring of Impacts and illustrates how the notion of *'use'* can be inserted into a logical diagram of impacts:

Fig. 2: **Logical Diagram for Process Monitoring of Impacts**

[1] This approach is essentially used in German Development Aid, notably by Bundesministerium für Zusammenarbeit (BMZ) and Gesellschaft für Technische Zusammenarbeit (GTZ).
[2] This approach has originally been developed in Canada by the International Development Research Centre (IDRC).

The degree of use is also closely related to the time dimension: outputs are by definition the first phenomena that can be observed as a consequence of programme/project inputs or activities, followed by results and impacts (although they can take place simultaneously, especially if their unintended aspects are also taken into account!).

Process Monitoring of Impacts consists of four main steps:

1. **Identify areas of intended effects (results, impacts):**
   Define effects and classify them in line with the definitions given above. First by defining objectives and expected outputs, and in a second step by deriving results and impacts.
   In case of a larger number of intended effects, priority areas can be selected, which are considered crucial for successful implementation and where information from Process Monitoring of Impacts can be particularly useful (e.g. results which are particularly relevant, outputs whose actual use is crucial – or doubtful).

2. **Derive/agree on hypotheses for the achievement of effects:**
   Make assumptions about how inputs/outputs are used and by whom in order to produce intended effects. These assumptions can be based upon past experience, logical connections or professional knowledge.
   They should be described as processes (activities, behaviour or communication patterns of partners, target groups etc.) which constitute the links between the activities of a project/programme and intended results and impacts.

3. **Define areas of observation to monitor these processes:**
   These hypotheses must be observed to test whether they actually take place during implementation. Important questions for this purpose are: who is expected to act or change? How much? Until when? Observation might require the definition of milestones or indicators. However, these indicators will mostly be qualitative and considered as a product of preceding processes.

4. **Data assembly and interpretation:**
   Process monitoring will most likely be a task distributed among several actors, thus responsibilities for the collection of data and information need to be defined. Procedures are influenced by the time

requirements, available budget and work routines (can data collection be coupled with other activities?).

Care should also be taken to capture as much as possible the entire range of effects which can be observed (i.e. unintended or unexpected effects) and to regard deviations from intended routes not a priori as negative phenomena, but deal with them in a more differentiated manner. Because differences between plan and implementation as well as exceptions or unexpected effects are important sources of information for learning and improving implementation, as they can help to identify weaknesses, point at possible alternatives or lead to new solutions.

Important questions to be answered by data analysis: Are original assumptions about use of outputs still valid? What are specific problems or weaknesses in this respect? Should original assumptions or even intended results be modified? What can operators do to improve use of outputs? How can the behaviour of direct addressees be influenced more effectively in the intended directions? What can be done to curb unintended effects?
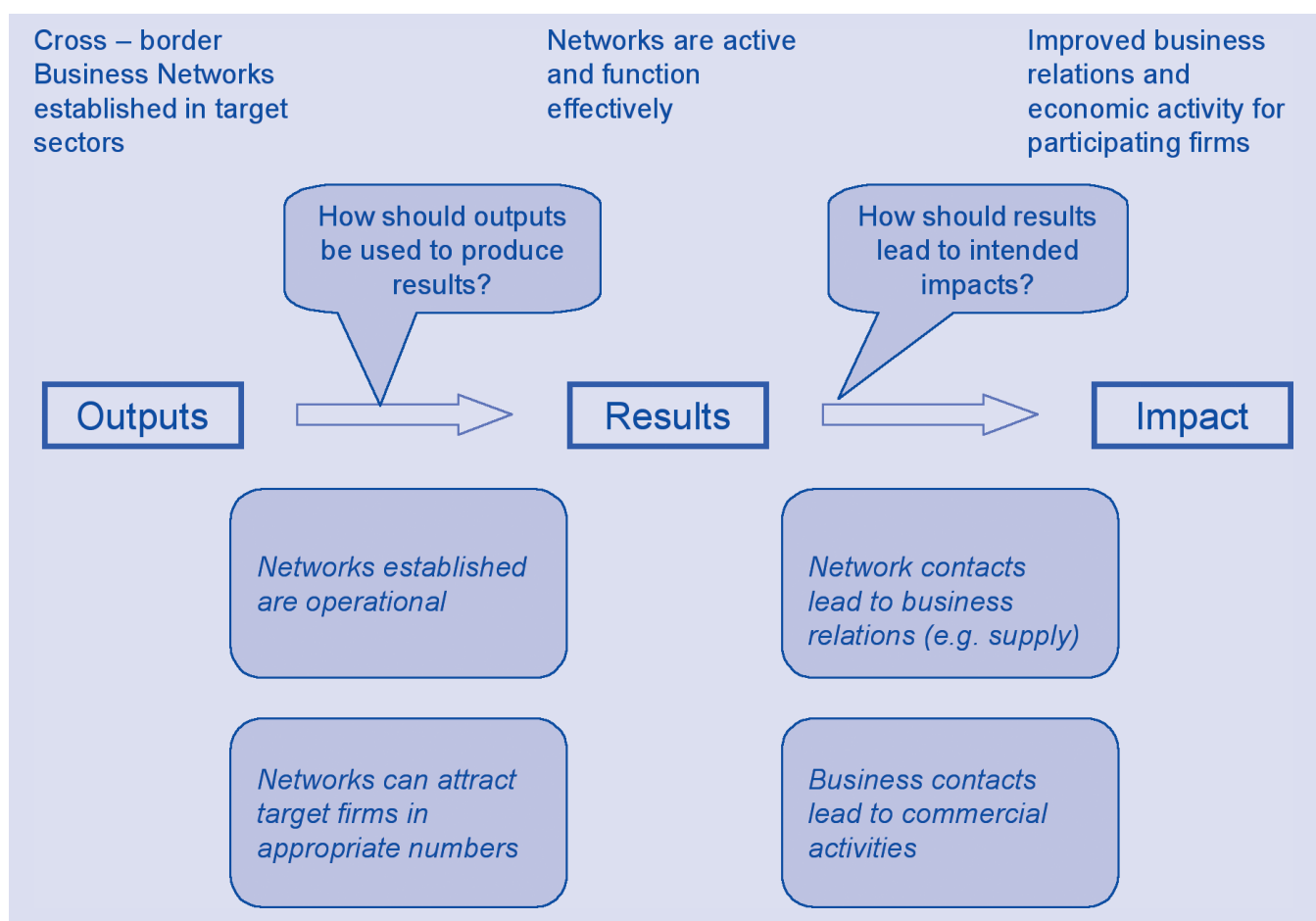
II. APPLICATION EXAMPLE

The example below demonstrates how Process Monitoring of Impacts can be applied with a support scheme for cross-border business networks, following the steps described above:

1. **The objective of this scheme is to support the establishment of effective and active cross-border business networks. The main effects are identified and classified in line with the definitions given above. Expected results are identical with the objective, can be directly linked with the use of outputs by project owners and target groups and their achievement can be influenced by the operators. Impacts can only be linked in an indirect manner; their achievement depends mainly on target firms and other actors.**

Cross-border Business Networks established in target sectors	Networks are active and function effectively	Improved business relations an economic activity for participating firms
OUTPUTS	**RESULTS**	**IMPACTS**

2. In order to link the various effects, assumptions are made about how - and by whom - certain outputs are used in order to produce one or more of the intended effects:

The formulation of assumptions for achieving results should be directly linked to the use of outputs, whereas the assumptions for impacts can be formulated in a more open manner.

Cross – border Business Networks established in target sectors

Networks are active and function effectively

Improved business relations and economic activity for participating firms

How should outputs be used to produce results?

How should results lead to intended impacts?

| Outputs | ⟹ | Results | ⟹ | Impact |

Networks established are operational

Networks can attract target firms in appropriate numbers

Network contacts lead to business relations (e.g. supply)

Business contacts lead to commercial activities

3. To observe whether these assumptions actually take place, data gathering routines and useful information sources must be identified. Indicators might be used for this purpose, if information on them is likely to available during implementation.

Possible quantitative indicators for results and impacts could be:

Sometimes it will be sufficient to collect quantitative data on indicators. But mainly this will require observing if and how the defined process assumptions take place. This can done by collecting information from well-informed actors (e.g. network managers), carrying out surveys (e.g. among a sample of target businesses) or analysing information contained in reports or information material.

| **RESULT** | **Networks are active and function effectively** | ▪ Nr. of network meetings
▪ Nr. of businesses involved in networks |
| **IMPACT** | **Improved business relations an economic activity for participating firms** | ▪ Nr. of cross-border business relations established
▪ Increase in cross-border sales |

4. Collection of required data and information will not only allow to assess whether defined indicators can eventually be achieved, it can also point at difficulties for reaching expected results/impacts, which facilitates to take corrective action in due time. The main challenge will be to distribute the task of data collection among actors in way that allows collecting relevant information in the most effective manner and integrating this task in work routines.
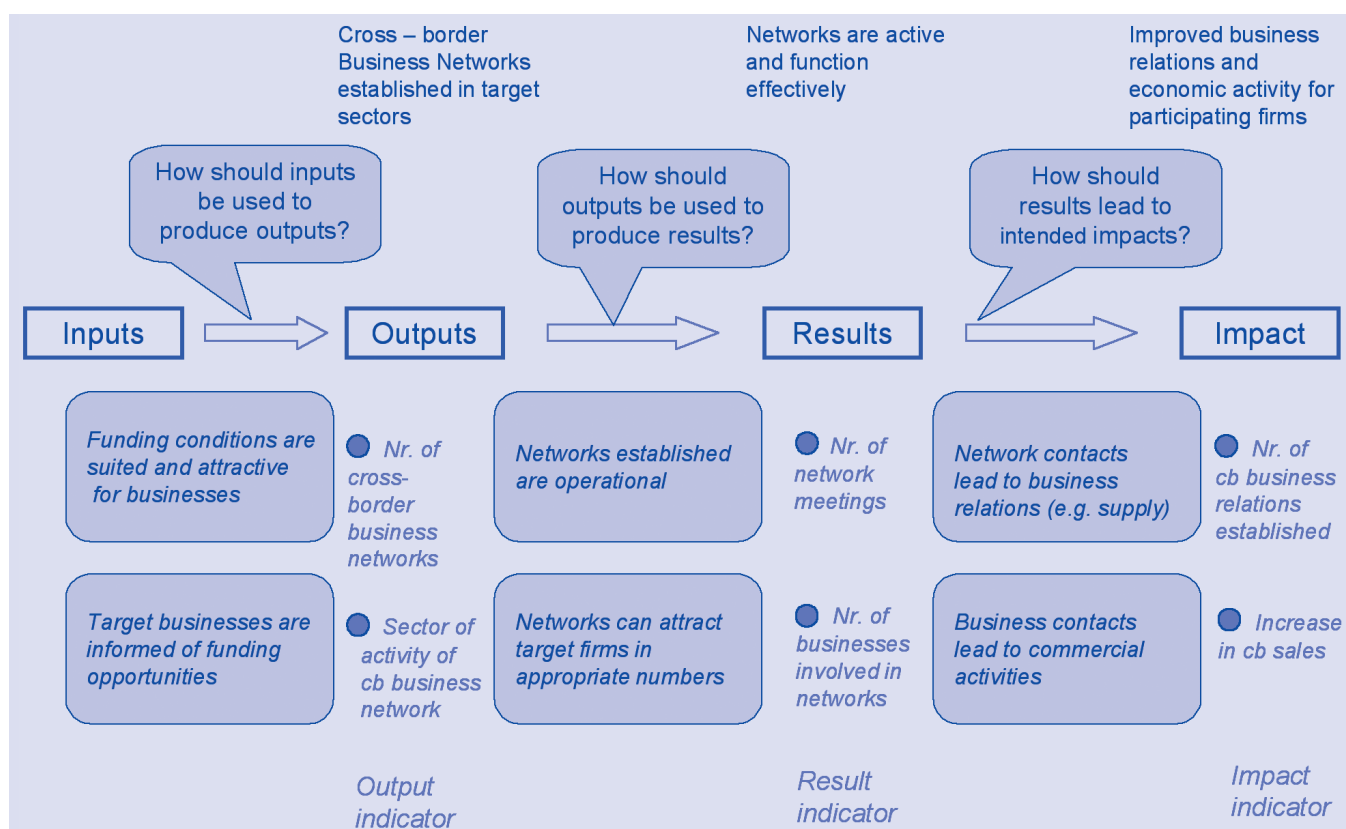
Process Monitoring of Impacts can also be applied during early stages in implementation, whereby the focus of attention is placed on the likely use of inputs. Referring to the example quoted above, assumptions can be made e.g. on the client orientation of the scheme and the degree of information of beneficiaries / target groups about the scheme. Assumptions at this stage can either relate to tasks of the scheme's operators or activities, which are to be carried out by project owners in order to achieve intended outputs.

By observing these assumptions, actors can already identify at very early stages whether the proposed support scheme will likely lead to the desired outputs (= nr. of projects by type and/or target group) and can take steps to improve the conditions for the use of inputs (e.g. promotional efforts, technical assistance for applicants, support for partner search, modification of procedures).

The figure below summarises the entire range of process assumptions during the various stages and their corresponding indicators:

Fig. 3: **Example for Support scheme 'cross-border business networks'**

Process Monitoring of Impacts is particularly helpful with soft measures, which mainly produce intangible results that are difficult to capture via quantitative indicators. But this method can also be applied with *'hard'* measures / projects (e.g. infrastructure, tangible investments) which can normally be captured quite well by quantitative indicators. But here as well information on result / impact indicators might arrive too late and is therefore not suitable as a management tool. In this case, Process Monitoring can produce relevant informant rather early and signal areas of improvement to management.

For instance, in the case of a road construction project, assumptions, which can be made on the use of inputs, can point at specific risk areas:

- Land use permits have been obtained and environmental assessments are concluded with positive results
- Objections by concerned citizens can be overcome in due time and satisfactory manner
- Co-financing from public / private sources has been assured
- Public tenders have been concluded in the required manner.

Compared to current monitoring practice in SF-Programmes, Process Monitoring of Impacts offers several advantages:

- Present monitoring systems respond to the information needs of input-driven implementation, essentially observe the implementation of activities and produce information on input (financial resources) and output. Process Monitoring of Impacts would respond to the information needs of impact-led management, observe the achievement of objectives and produce information needed to understand impact-creating processes.
- Because the focus is on links and relationships, Process Monitoring of Impacts allows identifying behaviour or interaction patterns which are crucial for achieving effects. Their observation can be carried out in collaborative forms and need not demand more time from programme implementers than current monitoring practice.

- Present monitoring systems rarely contain data on result- and impact indicators, which must be collected separately (e.g. through surveys, evaluators). Thus Process Monitoring of Impacts does not necessarily require more time and resources, as most of the information needed to fill in monitoring indicators can be collected in the process.
- Process Monitoring of Impacts orients the observation of programme authorities towards the achievement of objectives. By demanding corresponding information from project owners, they can also raise their awareness in the same direction, focusing attention on results and impacts can influence their behaviour in the desired direction.
- Indicators can also be used in this approach, but they are not regarded as isolated phenomena, but as products of preceding processes. Instead of treating indicators as objective *'data'* which have identical meaning irrespective of context, their interpretation is always based on relevant context information and the interpretations of different actors.
- Present monitoring systems usually provide date on results and impacts at very late stages (if at all). But with Process Monitoring of Impacts one does not need to wait to assess results until a chosen indicator is met, but understanding and observing the underlying processes can provide timely and early information if a project / programme is on the right track – or risks to miss desired results.
- Because Process Monitoring of Impacts does not assess the actual achievement of effects, but contributions towards desired changes, it is particularly suited for projects / programmes which act in an indirect way through partners. And because it is based on the observation of processes, it is well suited to monitor *'soft'* measures, which deal with open tasks, whose crucial qualitative features are difficult to capture by quantitative indicators.

IV. APPLYING PROCESS MONITORING OF IMPACTS WITH TERRITORIAL CO-OPERATION PROGRAMMES

I. GENERAL CONSIDERATIONS

Based on the experience gained so far in Austria, Process Monitoring of Impacts appears well suited to be applied in monitoring Territorial Co-operation Programmes.

- It is a very appropriate approach to address the challenges posed by the new objective, as the content of these programmes will mainly consist of soft measures and *'open-ended'* tasks, whose crucial processes are difficult to be covered by present Monitoring Systems, which are solely based on indicators.
- As it orients the observation of programme authorities and other involved actors (project owners, implementing partners) towards the achievement of objectives, it can complement present in-put driven Monitoring Systems with an impact-led approach. This is in line with Commission proposals to reorient the entire SF programming system towards impact.
- It can lead to a clearer distinction of monitoring activities in line with the logics and information needs of the actors involved:
  - The electronic Monitoring System will contain controllable and quantifiable data, which is formally required by programme administrators at higher levels (managing authority, EU Commission) and for reporting to the political level or a wider public.
  - Process Monitoring of Impacts will provide qualitative and quantitative information for implementing agents (within or outside the public administration) and for professionals. These activities take place outside the formally required Monitoring System, provide feedback and facilitate learning in order to improve implementation.

However, in order to be applied most effectively there needs to be a shift in resources and attention on several aspects:

- From planning to reflected management of implementation: This is in line with EU Commission proposals to simplify programming and provide utmost flexibility for evaluation. But the Commission services as well as programme authorities in Member States must consciously decide to spend less time and resources for preparing programmes and more on monitoring and evaluation during the implementation process. Process Monitoring of Impacts will best be carried out if embedded in a framework of on-going evaluation, which is equally advocated by the EU Commission.

- From monitoring of (quantifiable) indicators to monitoring of processes: Differentiating monitoring activities as proposed above should lead to a substantial reduction of data in the electronic Monitoring System. This will in turn reduce the workload of administrators to fulfil formal requirements and should allow spending more time and resources to monitor processes and to establish a corresponding learning system.
- From quantifying data to identifying crucial processes: Defining core process assumptions helps to clarify the *'theory of action'* and provides orientation for a series of implementation issues (e.g. assessing and selecting project proposals, identifying information needs). It is also the basis for any sound quantification and thus it should be given priority. Whether quantifications take place (and are even useful) is a secondary issue and will depend on many other factors, e.g. nature of the intervention, availability of valid, meaningful and relevant data, experience of implementing agents.

II. CROSS-BORDER CO-OPERATION STRAND

a) Programming and ex-ante evaluation

- Precision in defining measure level objectives: During the programming process (financial) inputs will be determined and a hierarchy of objectives established (at programme, priority and measure level). Expected outputs will mainly consist in the number and types projects to be funded with the resources made available by the programme. And other effects to be achieved are classified either as results or impacts.

For Process Monitoring of Impacts to be applied, the correspondence between effects and objectives is of particular importance:

- Measure level objectives should correspond as much as possible with expected results, in order to make a clear causal connection and define them as direct use of outputs. Thus they should be in line with the timeframe of the programme, the competence or responsibilities of implementing agents and intended beneficiaries and the nature of the measure respectively projects to be funded (output).
- Impacts on the other hand, should correspond to higher-level objectives, i.e. those defined at priority and programme level. This way at least plausible connections can be established between the two, which are

subject to verification either during the programme's implementation or in the framework of an ex-post evaluation after the end of a programme.

■ **Formulate key process assumptions at measure or priority level:**

Once the hierarchy of objectives / effects has been established and the expected results and impacts are known, key assumptions about their achievement can be made. Although for OPs it will only required to define priorities, it is probably useful to do this exercise at the level of (indicative) measures, especially if the measures contained in one-priority address quite different topics or aim at different target groups.

This task can either be carried out as part of the programming process or (preferably) in the framework of the ex-ante evaluation. In this case the ex-ante evaluator works with programme authorities to identify core process assumptions based on the hierarchy of effects defined beforehand by the programme authorities.

Process assumptions should primarily be identified for results, but if considered useful this exercise can also done for impacts – or for outputs, which might be particularly helpful in the early stages of programme implementation.

At this point it is also advisable to select priority areas, which are either considered crucial for successful implementation and where information from Process Monitoring of Impacts can be particularly useful (e.g. results which are particularly relevant, outputs whose actual use is crucial – or doubtful).

When the assumptions point at linkages between individual measures (e.g. if an expected use of outputs will the contribution to another measure or follow-up projects funded from another measure), a synthesis figure should be established at priority or even programme level, which contains the chains of effects that are expected to take place across measures.

■ **Define quantifiable indicators for Monitoring System:**

Based on the process assumptions some indicators will be defined, which are to be included in the electronic Monitoring System in order to collect quantitative data on them. These indicators will likely represent the endpoint of preceding process chains. As mentioned below, these indicators will predominantly be on outputs, plus a few selected result indicators.
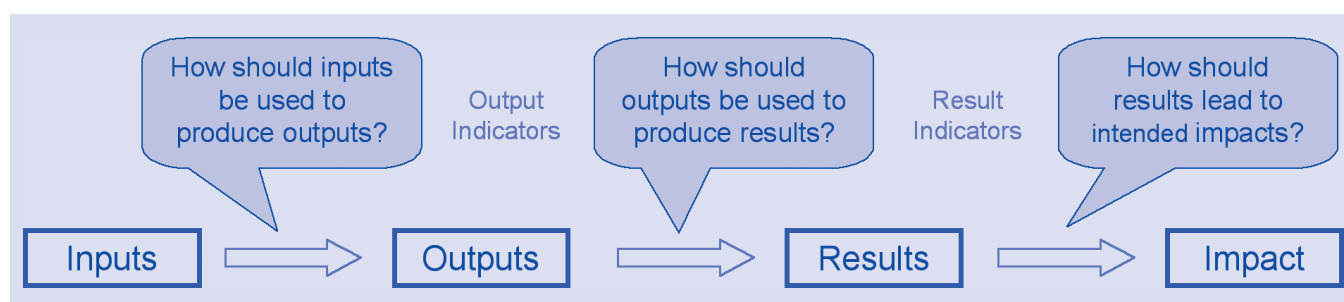

b) Electronic Monitoring Systems

This will continue to be an important source of information, but contents should be streamlined and focused on those aspects, where quantified data is meaningful and collection can be managed quite easily, based on sound standards in order to facilitate comparison/aggregation and avoid ambiguity in interpretation.

Thus the main contents will be:

■ **Inputs: This is key information for sound financial management and fulfilling the n+2 rule (e.g. data on commitments, disbursements, funding ratio and their comparison to financial tables).**
■ **Outputs: They should entirely be monitored via indicators, as this will also provide baseline information for Process Monitoring. Thus the Monitoring System will to a large part consist of output indicators, which can normally be collected quite easily from all projects supported.**

- Quality of co-operation: These indicators should not only be used to assess projects, but also be up-dated to illustrate progress in co-operation during implementation.
- Results: Only a very limited number of *'core'* indicators should be contained, which clearly are in line with the information and reporting needs of pro-

gramme administrators at higher levels (Managing Authority, EU Commission).
- Impacts: If impact indicators are formulated, they should not be contained in the Monitoring System, but treated as evaluation indicators, to be dealt with by evaluators. Thus it is not necessary to continuously obtain information on them.
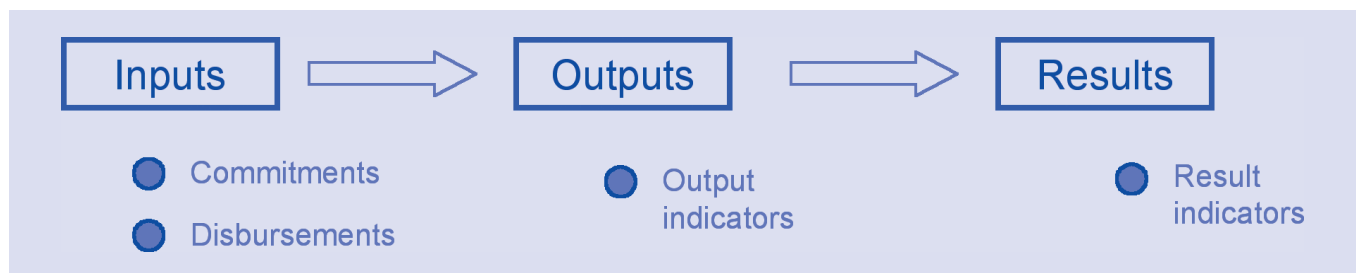
Quantification should only be required on output indicators, because they offer an adequate basis for sound predictions and quantified data are readily obtainable by

administrators. Quantifications of other indicators should be decided case-by-case, based on whether they are meaning- or useful.

c) Process Monitoring of Impact

The task for observing whether process assumptions actually take place during implementation will most likely be distributed among several actors; therefore procedures and responsibilities for collecting data and information need to be defined. Procedures are influenced by the time requirements, available budget and established work routines. A major challenge of this (and any other) monitoring approach will be to limit the workload of administrators. Time or resources for the monitoring of assumptions can be kept low by integrating this work as much as possible with activities, which have to take place anyway.

The most important procedures in this respect will be:

- During the application / decision-making stage:
  - Project applications: The application forms can already be designed in a manner that they serve to collect relevant information, which can be used for project assessment or constitutes base-line information to be validated during later stages in project implementation. The applications should contain questions like: what are expected outputs, how should they be achieved?

How should outputs be used? By whom and for which purpose? The response categories for these questions should be structured according to the process assumptions defined at measure level, in order to facilitate treatment of information later on.
- Contacts with applicants: Programme actors who provide information or support to applicants at this stage (e.g. Implementing Bodies, JTS) could ask similar questions in their contacts with applicants and also instruct them on the rationale and importance for answering these questions. This way programme actors build up a stock of implicit knowledge how applicants see the way, which should lead towards outputs and results – and might also discover some unexpected routes or unintended processes, which have not been captured by the original assumptions.
- Conditions of funding decisions: Programme actors or bodies who are responsible for funding decisions (e.g. Joint Steering Committee) can include process aspects in their considerations and even include them as conditions, which the applicants must meet and have to inform on. This will help to focus applicant's concerns not just on project implementation, but on the achievement of results and impacts as well.

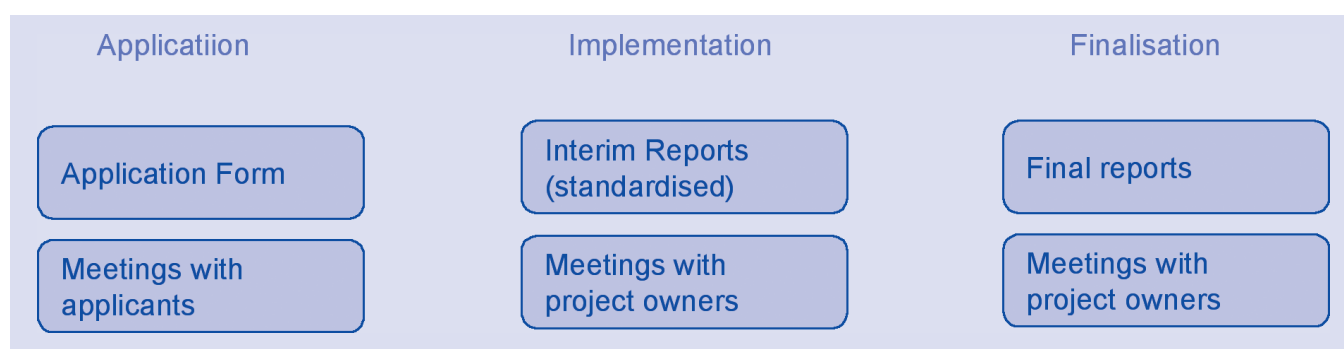■ **During or at the end of project implementation:**
  ■ Intermediary Reports: These reports serve to provide on-going information on whether original process assumptions are still valid, where divergence or unexpected effects take place. They should be structured in accordance with main elements of the application form and be as standardised as possible, in order to facilitate data processing and the production of time line information.
  ■ Final Reports: They should provide conclusive evidence whether process assumptions have actually been met or unexpected effects have taken place, but also contain information on the achievement of impacts – or the plausibility for achieving them.
  ■ Contacts with project owners: just as during the preparation phase, they can be used to gather information how applicants see their progress towards outputs and results – and might also serve to discover unexpected routes or unintended processes which have not been captured by the original assumptions.

The major information sources that can be used by programme management for Process Monitoring of Impacts can be summarised as follows (for each stage of the project cycle):

Applicatiion	Implementation	Finalisation
Application Form	Interim Reports (standardised)	Final reports
Meetings with applicants	Meetings with project owners	Meetings with project owners

Identifying the most appropriate forms for data assembly is an important task of programme authorities, which should be undertaken at rather early stages, possibly with external assistance (e.g. as part of the ex-ante evaluation). And feasible solutions must be found for cases that pose a particular challenge due to the large number of projects to be treated (e.g. sampling, electronic processing of information).

Process Monitoring of Impacts implies a major shift in accountability, as project owners are essentially made accountable to achieve outputs and pursue their intended uses. Thus they would gain more flexibility in implementation and do not have to provide detailed account of their activities. On they other hand they will be obliged to inform programme authorities in due time if the achievement of outputs is at risk and adaptations are needed (in terms of funding, timing or even outputs).

Moreover, this would considerably reduce paper work and bureaucratic obligations:

■ **Shorter Project Applications:**
They should essentially contain a description of project content (background, objectives, target groups and expected effects) and an outline of the main processes needed to achieve them, including an indicative action plan.

■ **Simplified and standardized Reporting:**
Reports should inform on context changes and the quality of cross-border co-operation, but also on progress towards outputs and the achievement of expected results or impacts. Reporting standards need to be applied by all sides and rules for the exchange of information on project implementation should be agreed.

d) Role and use of evaluation

During the application / decision-making stage, process aspects should be included as criteria for the assessment of applications: Are the expected outputs in line with assumptions formulated at measure level, does their fore-seen use contribute to achieving results or impacts de-fined at measure level? In this way applications can be rated according to their likely contribution for achieving objectives at measure or priority level.

Later on evaluation can be used to analyse and interpret information in three ways:

- Analysis of monitoring data:
  Evaluators can assess delivery of (financial) inputs and quantify progress made towards the achieve-ment of co-operation quality, outputs as well as some selected results by analysing quantified data contained in the Electronic Monitoring System.
- Analysis of information collected:
  Evaluators can assess progress made towards results or impacts at measure or priority level based on the information sources mentioned above (e.g. applications, reports). This work can be done in col-laboration with other actors (e.g. JTS, Programme Administration). An important task in this respect will be to identify main differences from original plans and the emergence of unintended effects.
- Carry out additional analysis:
  In order to collect more qualitative information on selected issues, additional activities can be under-taken (e.g. questionnaire surveys, interviews, focus groups). And they can carry out detailed impact analysis to further explore effects achieved. Howev-er, impacts should be assessed as specific as possi-ble (e.g. for a group of projects, a measure/priority, a sector or a territory). In this way, the complexity of interventions can best be taken into account (incl. spill-over, synergy and displacement effects) and the information is most likely to correspond with the needs of implementing agents.

Process Monitoring of Impacts will be most effective if evaluations are carried out in a climate of partnership, mutual respect and trust, therefore evaluation designs should focus on joint reflection and learning, based on these qualities. Furthermore, it would be advantageous if done in a framework of on-going evaluation, which is build around the information needs (and evaluation ques-tions) of programme administrators and whose timeframe is sufficiently flexible.

To sum up, Process Monitoring of Impacts leads to the establishment of a comprehensive Management Informa-tion System, which combines existing elements and pro-cedures in an interconnected manner: Electronic Monitor-ing Systems, Applications, Reports, Contacts / meetings with applicants, project assessment, evaluation. The innovation therefore lies not in the individual elements, but in their new and creative combination. Thus Process Monitoring of Impacts essentially consists in a coherent framework for knowledge management at programme level.

The figure below shows the main elements, distributed at various levels and over the time sequence of the project cycle.

Fig. 4: *Main elements of the information system used by Process Monitoring of Impacts*
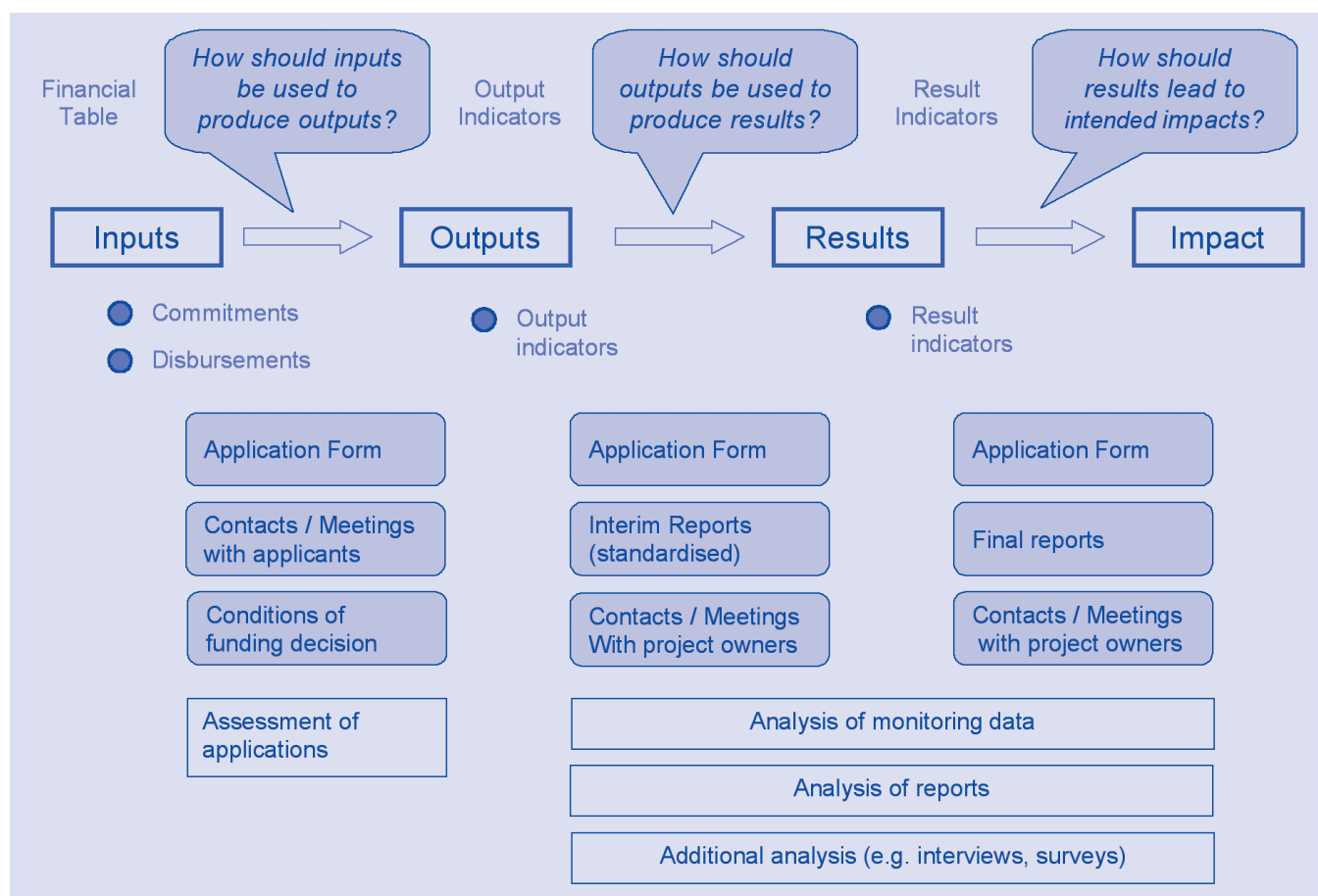
III. TRANS-NATIONAL CO-OPERATION STRAND

a) Programme and measure level

At programme level, most of what has been said above for the cross-border co-operation strand is also valid in this case. Tasks and aspects to be paid attention to during programming or ex-ante evaluation are largely identical. The Electronic Monitoring System would need to contain similar information (except for indicators on co-operation quality) and the same procedures or information sources are needed to apply Process Monitoring of Impacts with trans-national programmes.

But the application of Process Monitoring of Impacts would require a paradigm shift in attitudes of Programme Authorities, which consequently leads to quite substantial changes in procedures. The main modifications would be:

- Focus on objectives:
  Throughout the project cycle, attention should be on objectives and their attainment. Instead of monitoring primarily activities and (output) indicators, based on the simplistic assumption that through their achievement objectives will be met quasi "automatically" - a good illustration for de-facto substituting objectives by indicators!
- Shift in accountability:
  Project owners should be accountable to achieve their stated objectives - and not the implementation of original work plans. To this end they should only be required to submit an indicative action plan in the application and have the flexibility to modify inputs or activities without having to ask for further permissions (within certain limits which need to be defined). But they have the responsibility to signal to the JTS the need for major adaptations (in terms of funding,

timing, even objectives) if the achievement of objectives is at risk. They should also be requested to make corresponding proposals.

- Shift in role of JTS:
Their focus of attention should equally be on the achievement of objectives. This would require that they follow implementation much more in terms of contents, shift from monitoring of indicators to monitoring of core processes, communicating with project owners in a much more interactive manner. This might require different skills and expertise of JTS staff, or more involvement of external experts or National Contact Points (who could provide insights in national / regional contexts).

The main procedural changes would be:

- Streamlined project applications:
They basically should include a description of project content (background, objectives, target groups and expected effects) and an outline of the main processes needed to achieve them, including an indicative action plan.
This would drastically reduce the volume of applications and especially omit all the elements which are either highly speculative, relate to high-level objectives or can only be answered with great difficulties at the very beginning of a co-operation process. Moreover, shorter applications in combination with a different assessment approach (interactive, focused on contents) would also allow to assess projects and the ideas behind them – and not applications respectively compliance with manifold formal obligations.
- Simplified Reporting:
Reports should focus on progress towards achieving outputs, based on the assumptions on core processes made in the application. The style of reporting needs to change as well and should become more interactive. In addition to (short) written activity and financial reports, the reflection on the progress made should take place in dialogue with JTS (or experts commissioned by them).

The proposals made above mainly relate to "soft" projects. It is advisable to differentiate these modifications further according to the types of projects (e.g. strategic projects, infrastructure projects, networks and institution building), as they will have different characteristics, time frames and management needs.

But Process Monitoring of Impacts can also be applied at measure level:

- Here as well, key process assumptions for the achievement of effects can be formulated (primarily for results, but if considered useful also for output or impact). This can either be done as part of the programming process or (preferably) in the framework of the ex-ante evaluation. And this would also provide a sound basis for identifying appropriate indicators for monitoring the implementation of measures.
- Precision is also required in defining measure level objectives: They should either correspond to results or outputs, depending on the nature of the projects/ measure, the timeframe, the competence or responsibilities of implementing agents and intended beneficiaries.

Implementing Process Monitoring of Impacts would greatly alleviate the workload of project owners (especially Lead Partners), respond to many of the current issues of discontent – whilst providing much better insights into the operation and likely effects of projects. It would not only reduce the requirements in terms of time and resources to submit applications, but also substantially lower the need for handling project modifications and noticeably limit the paper work involved in reporting.

Last but not least, it would allow a different style of interaction between JTS and project owners. JTS staff would largely be liberated from routine work in connection with project modifications or processing written reports, and thus would have more time to engage with project owners in a more direct, interactive manner or to assist in cross-project learning, exchange of experience and good practice. This could provide valuable contributions towards increasing the added value of trans-national co-operation.
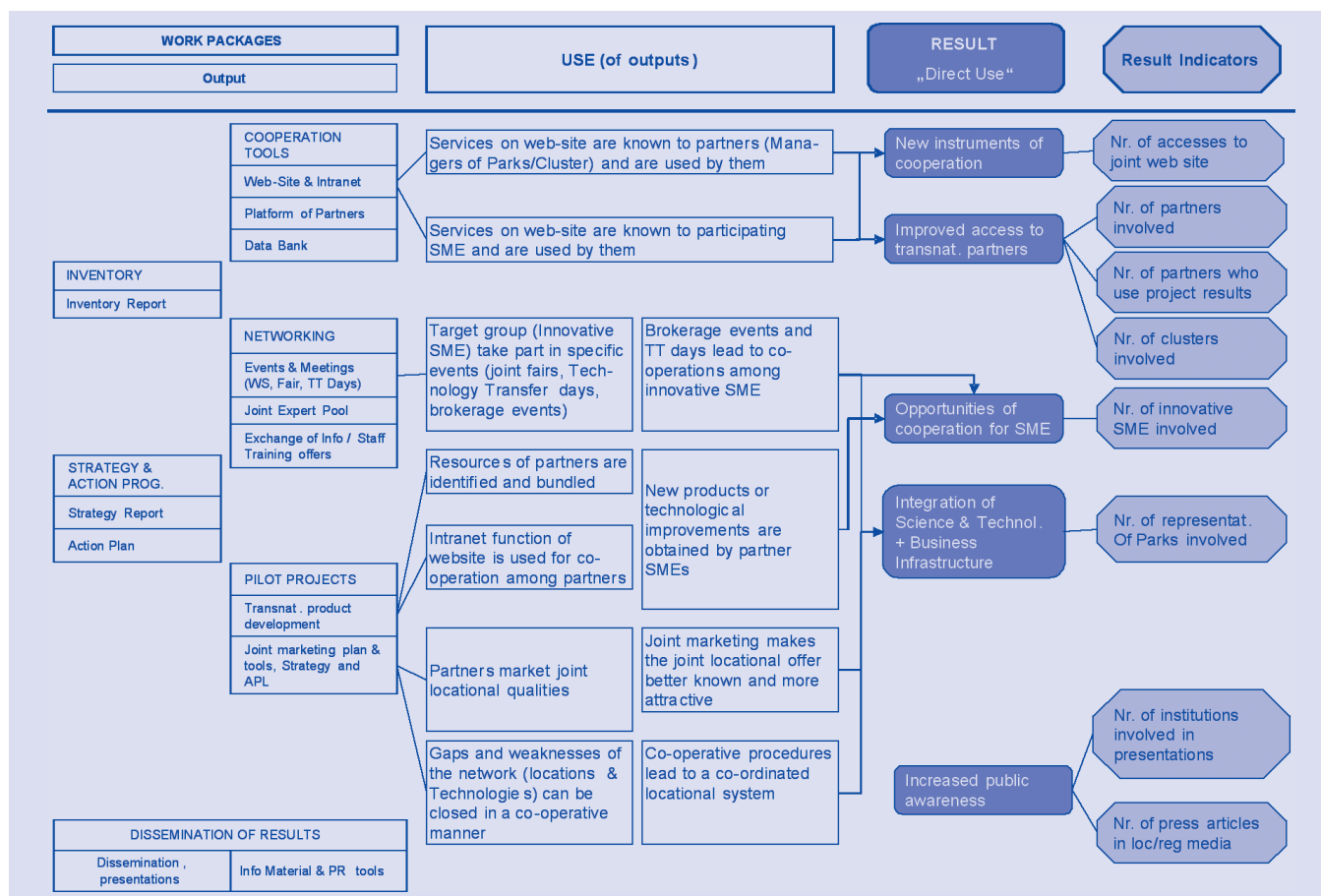
b) Project level

Present monitoring and reporting in IIIB Programmes is excessively focused on activities and outputs, which serves well to hold projects accountable to implement their original plans, but neglects the need to adapt to changing circumstance and to ultimately achieve project objectives and results. Project owners are faced with specific complexities in their implementation as well as unsatisfactory and cumbersome requirements for monitoring and reporting. In the framework of the Austrian action-research project mentioned in section 1, the application of Process Monitoring of Impacts was tested with several INTERREG IIIB projects with Austrian Lead Partners.

For these IIIB pilot applications care was taken to use as much as possible information, which was already contained in the project application and thus constitutes the base for reporting. For the representation of key process-es diagrams were used, which also facilitated communication and joint reflection of involved actors. The graphic representations, which were developed, are based on conventional impact diagrams, they are rather simple and can be used with computers (power-point) or with pin-boards (meta-plan technique).

The figures on the page below show the consolidated results of the pilot application of the INTERREG IIIB (CAD-SES) project TECPARCNET[1]. They are presented in two figures, one page for Results and the other one for Impacts. The "use" column contains those processes, which are assumed to be crucial for achieving expected results (arrows show the intended links). The impact page contains those assumptions, which have been selected because they appear crucial for achieving expected impacts. They are identical to some of the assumptions on the "result page" or rather represent the final stages of some of the processes for using outputs.

*Fig. 5: **Process Monitoring of Impacts for INTERREG IIIB project TECPARKNET***

[1] This project aims at co-operation of Science and Technology Parks in the "Future Region" co-operation area. By creating links among existing parks it is expected to upgrade the level of economic and social integration in this area located at the interface between old and new Member States and lay the foundation for a long-term network.