Making the invisible visible
Towards strategic measures of research and technology organisations (RTOs)
Kirsi Hyytinen, Katri Kallio, Olli Kuusisto & Arho Suominen
VTT Technical Research Centre of Finland Ltd

RTOs are tackling with systemic and complex challenges
There are no simple solutions to complex societal problems. Modern innovation theories emphasizes that tackling system level problems requires considering three perspectives:
1) Solutions require deep integration of technologies and service-based novelities.
2) Collaboration between multiple actors from different sectors of society is required.
3) Developing and disseminating solutions requires understanding of customer and citizen needs and the policy-making context.

Current innovation measures do not make the impact visible
Target of RTOs is to solve broad societal challenges. However, current innovation indicators do not capture RTOs’ multiple roles and impact in systemic environment. There are two main reasons why traditional evaluation and measures fail. The focus is on:
• techno-economic aspects of innovation and impact, which are not able to capture the reality of innovations (e.g. system, social and service innovations) and “hidden performance”;
• input and direct outputs. Therefore we lack data about impact.

VTT’s strategic evaluation framework
VTT’s new strategic evaluation framework and related measures of success (KPIs) integrate multi-criteria approach of innovation to the traditional balanced scorecard (BSC). The framework expands traditional innovation indicators towards broader societal transformations in accordance with VTT’s strategy. They make VTT’s long-term impact visible in four categories:
1) Benefit for society
2) Benefit for customers
3) Excellence in everything we do
4) Sufficiency of financial resources

Figure 1. The focus in the impact analysis is typically in the linkages between the visible innovation and visible performance, which do not capture the non-technological innovation and hidden performance of innovations. (Djellal & Gallouj, 2010).

Biased information may cause inaccurate analysis and interpretations and lead to inappropriate decisions. In order to paint a truthful and comprehensive picture of RTOs’ impact, and to provide better information for managing and learning, we need diversified evaluation approach and measures.

Conclusions
- To make the invisible visible we need more diversified evaluation approach and indicators which enable to analyse RTOs impact in the systemic and complex environment.
- RTOs’ impact cannot be demonstrated with one – or even a few single indicators: a comprehensive picture of impact requires multi-criteria approach, a variety of indicators and data gathering from multiple sources.
- Policy measures and evaluation practices could be updated to perceive the significance and ‘hidden performance’ of innovations in systemic context: innovations do not emerge without evaluation mechanisms that support their creation.