

# NANORIGO

<b>DELIVERABLE No.</b>	<b>D1.8</b>
<b>DELIVERABLE TITLE</b>	<b>Critical evaluation of governance frameworks – considering the current integration of ethical, environmental, social, economic, legal and/or regulatory considerations</b>
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## **Executive Summary**

This report provides a critical evaluation of governance frameworks. It explores the extent to which existing governance frameworks take ethical, social, environmental, economic, legal and regulatory considerations into account. The purpose of this review is to provide recommendations for the integration of such broader considerations in the NANORIGO Risk Governance Framework.

The following research questions guided the review:

- How are ethical, environmental, social, economic, legal and/or regulatory considerations integrated in existing governance frameworks?
- What effect, if any, have ethical, environmental, social, economic, legal and/or regulatory considerations had on risk governance outcomes?
- What do the answers to questions 1 and 2 imply for the future NANORIGO Risk Governance Framework and Council?

The report reviews previous European and national nanotechnology risk governance projects and initiatives (including those funded under the NM(B)P-programme), the biotechnology risk governance framework, and broader governance frameworks. The review findings suggest that despite a long-standing interest in integrating 'other concerns' in risk governance, agreement on how to implement such accommodating mechanisms proved elusive. This is in part due to the incommensurability of 'hard' scientific data with 'soft' qualitative data. Due to their complex, contested and inherently qualitative nature, broader ethical and societal considerations do not lend themselves to integration in decision support tools which require accessible, quantifiable, reproducible and more or less uncontested indicators as input. This incommensurability presents a challenge for risk governance: while the importance of broader ethical considerations is emphasized in theoretical expositions on nanotechnology risk governance, such issues seem to recede into the background when operational decision frameworks are being designed. A possible consequence may be that such considerations may reassert themselves by other means, resulting in the integration of social concerns by brute force (as in the case of biotechnology, where ethical concerns caused a public backlash against GMOs).

This report underlines the need to effectively integrate ethical, social, environmental, economic, legal and regulatory considerations in risk governance. The challenge is to create a more 'socially robust' governance framework that includes a capacity to anticipate and respond to broader ethical and societal concerns. The question remains how this need can be addressed in practice. Indeed, the successful integration of such broader considerations in risk governance

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would constitute a highly innovative and much needed contribution from the NMBP-13 projects to the advancement of risk governance in general.

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