THERAMIN Conference Proceedings: Preface

This Proceedings volume is dedicated to presenting the results of the EC THERAMIN (Thermal Treatment for Radioactive Waste Minimisation and Hazard Reduction) Project and other recent developments related to thermal treatment of radioactive waste.

The THERAMIN conference was held at the Mechanics Institute, Manchester on 4th and 5th February 2020. The conference brought together over 80 researchers and industrialists from 10 countries to share knowledge and learning from experience on the following topics, aligned with the main themes of the THERAMIN project (shown in Figure 1):

- Strategic review of radioactive wastes that could potentially be thermally treated and available thermal treatment technologies (Work Package 2).
- Demonstration of thermal treatment technologies for selected waste stream/technology combinations (Work Package 3).
- Characterisation and disposability of thermally treated products (Work Package 4)

The THERAMIN project also aimed to disseminate the knowledge gained through the project by inviting those not involved in the project to participate in this conference and by organising individual training placements (hosted by VTT, The University of Sheffield and CEA) and a technical training school for 20 early career researchers and students at the CEA's Le Visiatome Centre in Marcoule (Work Package 5).

THERAMIN aimed to identify which wastes could benefit from thermal treatment, which treatment technologies were under development in participating countries, and how these could be combined to deliver a wide range of benefits, including:

- Significant volume reduction.
- Waste passivation.
- Destruction of organic materials.

These benefits reduce risks during waste storage and support development of safety cases for geological disposal.

The conference was hosted by the University of Sheffield, Galson Sciences Limited and the National Nuclear Laboratory (UK partners in the Theramin project) and the HADES Facility at the University of Sheffield.

The conference organising committee consisted of:

Professor Neil Hyatt, Department of Materials Science & Engineering, The University of Sheffield.
Dr Jenny Kent, Galson Sciences Ltd, UK.
Professor Anthony Banford, National Nuclear Laboratory, UK.

The organising committee would like to thank the authors, speakers and participants for their contribution to the success of the THERAMIN conference and for supporting the peer review of papers submitted for inclusion within the conference proceedings. In addition, Dr Sally Scourfield (Galson Sciences Ltd. and Dr Laura Gardner (The University of Sheffield), played a pivotal role in the organisation of the meeting.

All papers published in this volume of *IOP Conference Series: Materials Science and Engineering* have been peer reviewed through processes administered by the proceedings Editors. Reviews were

conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by IOP Publishing.

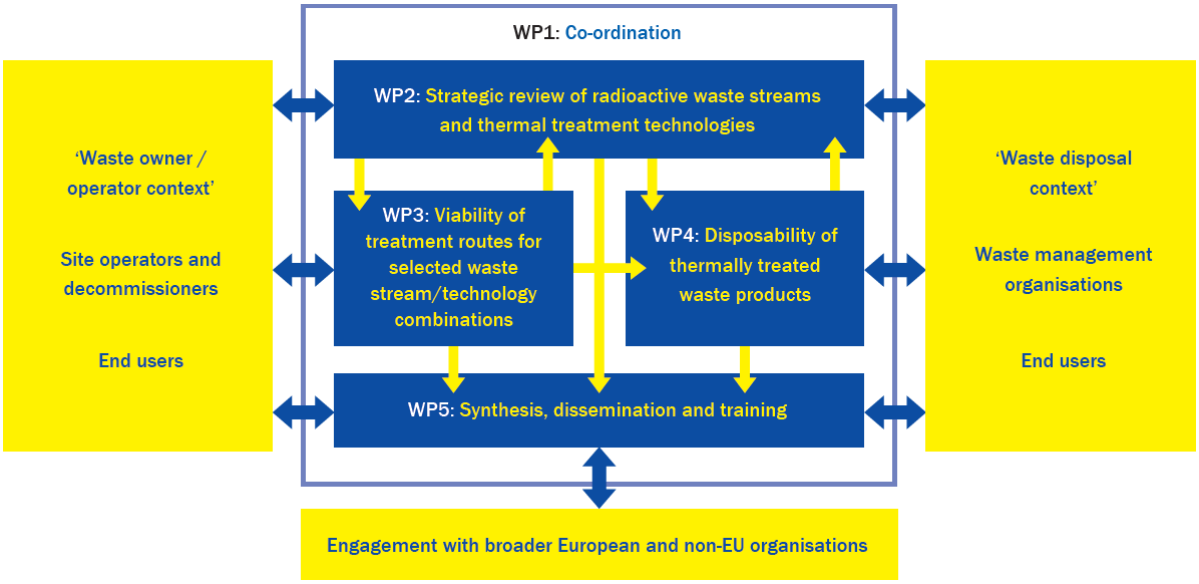

Figure 1. Structure of and interactions between the work packages in the THERAMIN project.

The THERAMIN project was carried out by a consortium of 12 partners representing a European-wide community of experts on thermal treatment technologies and radioactive waste management and disposal. The project included an advisory group of waste owners / site operators and management organisations to provide an end-user view. This project has received funding from the Euratom research and training programme 2014-2018 under grant agreement No 755480. The work presented reflects the views of the authors and the European Commission is not responsible for any use that may be made of it. Finally, this meeting was held in association and supported the HADES / MIDAS Facility at The University of Sheffield, established with financial support from the UK Department for Business, Energy and Industrial Strategy and EPSRC under grant reference EP/T011424/1.