

## ENUMIS

Energetische Auswirkungen von Urban Manufacturing in der Stadt

<b>Programm / Ausschreibung</b>	ENERGIE DER ZUKUNFT, SdZ, SdZ 4 AS 2016	<b>Status</b>	abgeschlossen
<b>Projektstart</b>	01.09.2017	<b>Projektende</b>	31.08.2018
<b>Zeitraum</b>	2017 - 2018	<b>Projektlaufzeit</b>	12 Monate
<b>Keywords</b>	Abwärmenutzung, Energieeffizienz, Urban Manufacturing		

### Projektbeschreibung

Das Projekt beleuchtet die Herausforderungen von Urban Manufacturing (UM) aus Energiesicht und zeigt Chancen auf, die sich durch eine Umsetzung von UM-Konzepten in Hinblick auf die Konzeption nachhaltiger Energiesysteme für Städte ergeben. Nach einer Recherche zu nationalen und internationalen Studien zu UM sowie Abwärmenutzung wird eine regionale Analyse der strukturellen Rahmenbedingungen für UM (Branchen-, Unternehmens- und Beschäftigungs-Struktur), sowie für Abwärmenutzung in den größten Städten Österreichs durchgeführt. Weiters werden die künftigen Potenziale für UM anhand von ExperInneninterviews in Unternehmen sowie einem Stakeholderworkshop mit VertreterInnen aus der Wirtschaft, Stadtverwaltung und Energieversorgung diskutiert, wo neben Chancen auch die fehlenden Rahmenbedingungen zur Umsetzung von UM-Initiativen und Abwärmenutzung betrachtet werden. Daraus werden abschließend Empfehlungen für die politische Umsetzung auf städtischer Ebene entwickelt.

### Abstract

The project ENUMIS "Energetic Impacts of Urban Manufacturing in the city" aims at exploring the possibilities and challenges of Urban Manufacturing (UM) in around 10 selected sample cities in Austria (Vienna, Linz, Graz, Klagenfurt, Villach, Bruck an der Mur, Leoben, Steyr, Wels, Salzburg, St. Pölten) and the challenges from the perspective of energy supply. Opportunities resulting from the implementation of UM initiatives with regard to urban structure and development as well as the development of sustainable energy systems for cities are presented. The integration of the UM approach into urban development concepts in the sense of a functional mix of living and working creates not only opportunities for a city of short distances but also an efficient use of energy. The project provides answers to two core questions: on the one hand, the issue of urban manufacturing is addressed and how framework conditions can be created to keep companies of the manufacturing sector in cities or to promote new settlements. On the other hand, it is analyzed which waste heat utilization potentials from industrial and commercial plants are present in the sample communities and which additional effects are expected by Urban Manufacturing.

To answer the research questions, the state of knowledge is summarized from research on national and international studies on the topic field UM, from expert interviews and the experiences of the project partners from preliminary projects. To analyze the overlap areas of the UM and waste heat usage, the potential waste heat quantities in the around 10 selected sample cities will be estimated as the waste heat potential sum according to temperature level groups. Further, scenarios of

UM initiatives for the cities are developed and the additional effects for urban production as well as for the waste heat of the relevant sectors will be discussed. In a stakeholder workshop with representatives from business, city administration and energy supply, potential challenges, potentials, opportunities and the lack of a framework for the implementation of UM initiatives and related energy questions will be discussed. The results of the interviews, the waste heat potential analyzes and the stakeholder workshop then provide a collection of ideas, which finally lead to policy recommendations for the implementation of UM initiatives and the use of waste heat utilization potentials additionally gained from UM.

### **Projektkoordinator**

- AIT Austrian Institute of Technology GmbH

### **Projektpartner**

- SUPERWIEN URBANISM ZT OG
- Fraunhofer Austria Research GmbH