

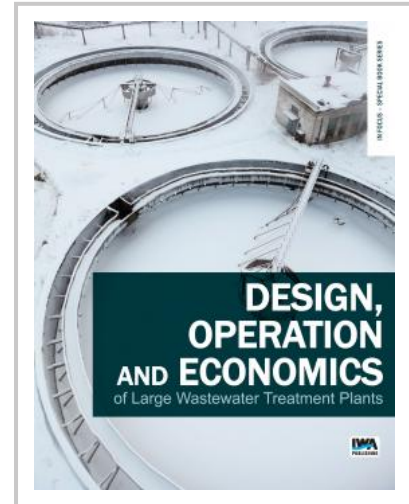
# Design, Operation and Economics of Large Wastewater Treatment Plants

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This book emphasizes the growing interest in the design and operation of large wastewater treatment plants throughout the past decades. The outstanding role of LWWTPs nowadays results from the shift of the world's population from rural to urbanized areas with centralized sewer systems. The urban population of the world has grown rapidly from 751 million in 1950 to 4.2 billion in 2018.

Asia is home to 54% of the world's urban population, followed by Europe and Africa with 13% each. Today, 55% of the world's population lives in urban areas, a proportion that is expected to increase to 68% by 2050. Projections show that urbanization, combined with the overall growth of the world's population could add another 2.5 billion people to urban areas by 2050, with close to 90% of this increase taking place in Asia and Africa.

Topics covered in this book include operational data and research centred around large-scale applications of innovative technologies and approaches; topics connected with the design and operation of LWWTPs, such as data acquisition for design purposes, application of mathematical models, nitrogen removal optimization and financial sustainability. Emerging topics of interest are also examined, such as the removal of micropollutants and microplastics, greenhouse gas emissions, activated sludge granulation and the effect of street thawing salt on plants.



**Publication Date:** 15/11/2021

**ISBN13:** 9781789062823

**Pages:** 132

**Print:**

**Standard price:** £75 / €94 / \$113

**Member price:** £56 / €70 / \$84