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# **IRANGKOR: an integrated, multidisciplinary approach to evaluate the role of iron (production, trade, consumption) in the expansion of the Khmer Empire, Cambodia (9<sup>th</sup> to 15<sup>th</sup> c. CE)**

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The Khmer Empire, based at the UNESCO World Heritage site of Angkor in Cambodia, rapidly extended their political influence across mainland Southeast Asia between the 11th and 13th c. AD. Traditionally, Angkor's power base is attributed to an elaborate bureaucratic system, regional centres, and road system, however the actual mechanisms that facilitated the sudden expansion remain obscure. Lack of key resources around the capital suggests this network provided materials necessary to enable agricultural output, supply of armies, construct temples and hydraulic facilities, and trade with foreign nations. Given the massive scale of Angkor's accomplishments a corresponding increase in industrial-scale activities should be witnessed in raw material collection, refining, distribution and use across the landscape. Iron, with its dynamic technological characteristics and universal utility, is viewed as an ideal – and currently undocumented – medium to investigate these empire-building processes for the medieval Khmer.

IRANGKOR is the first intensive study of khmer iron production with the explicit goal of shedding new light on the iron circulation and broader exchange system within the khmer Empire. For the last 10 years, LAPA investigated the significant physical and chemical properties and features of iron objects, in particular those linked to microscopic Slag Inclusions (SI) embedded within artefacts, to provide crucial information on the iron-making processes, technology and more recently provenance and absolute dating to provide a renewed vision of trade flows, supply and employment of iron in specific historical, chronological and socio-economic contexts. These innovative methodologies based on an integrated interdisciplinary approach are here developed to the medieval Khmer context.

This communication aims to present and discuss the context, the multidisciplinary collaboration, the methodological stages as well as the results obtained in the frame of this international project.