The discovery of graphene and its astonishing properties has given birth to a new class of two-dimensional (2D) materials so named because, as with graphene, they can be thinned down to single layers only one to three atoms thick. This particular feature grants 2D materials unique physical and chemical properties such as transparency, flexibility, and extreme sensitivity to stimuli, making them very attractive for electronic and photonic applications such as high performance bendable electronics, optoelectronic and spintronic devices, sensors, electrodes and nanocomposites. Naturally, 2D materials have become the focus of worldwide research in the past 10 years. Currently, work is ongoing to develop 2D materials in large dimensions, at low temperatures and to transfer 2D materials onto different substrates to make them suitable for industrial applications. A very promising 2D material is MoS2, with ongoing work both at Leti and Stanford developing, characterizing and modeling MoS2 growth and transfer processes to understand the governing physical principles involved. This project aims to create a strong synergy between Leti and Stanford on the subject of 2D materials to move this fast evolving class of materials into the next generation of electronic devices.