This is a report on joint work with Hossein Movahedi-Lankarani still in progress. A normed space (i.e. complete metric space together with a majorant function with Lipschitz constant 1) bi-Lipschitz embeds in n-dimensional Euclidean space if and only if the canonical isometric embedding in the dual of the Lipschitz functions is weakly spherically compact (due to Movahedi-Lankarani and Wells). In turn, this canonical embedding is weakly spherically compact if and only if all asymptotic and tangent cones uniformly bi-Lipschitz embed in this dual space of the Lipschitz functions on the normed space. The asymptotic and tangent cones encode respectively, the large scale and local structure of the original space and their appearance characterizes points in the weak-* closure of the appropriate space of metric "chords" in the Lipschitz dual. In this way we obtain necessary and sufficient conditions for bi-Lipschitz embedding in Euclidean spaces without reference to any of the metric dimensions such as the Assouad dimension.