In this talk I will sketch the construction and highlight the main properties of a new motivic category for logarithmic schemes, log smooth over a ground field k. This construction is based on a new Grothendieck topology (called the "dividing topology") and on the principle that homotopies should be parametrised by the affine line with compactifying log structure. The resulting category logDM shares many of the fundamental properties of Voevodsky's DM, that can be faithfully embedded inside it, and can be used to represent cohomology theories that are not A^1-homotopy invariant (like Hodge cohomology or Hodge-Witt cohomology). Moreover, we conjecture that the étale version of our category with integral coefficients can be used as a geometric incarnation for Milne-Ramachandran category of integral étale motivic complexes.

This is a joint work with D. Park (Zurich) and P.-A.Østvær (Oslo).