Over the last years, numerous studies have revealed the neurocognitive basis of suicidal behavior. It is now thought that particular cognitive deficits may represent vulnerability factors to suicidal acts. This notably includes disadvantageous decision-making, reduced cognitive inhibition and, to a lesser extent, deficient memory. The neural basis of these deficits are under investigation and are mostly related to the orbitofrontal and dorsolateral prefrontal cortices. Some of these deficits, notably impaired decision-making, have been found in remitted patients, but also in first-degree relatives of suicide completers, suggesting that they are heritable endophenotypes. Future directions include the search for valid measures to be integrated to the clinical practice and targeted interventions. Preliminary findings will be presented.