

The invention relates to a system (500) for identifying or distinguishing materials (M_j), comprising at least one local apparatus (510, 520, 530) and a central station (550). Each local apparatus (510, 520, 530) comprises at least one measuring device (400) for recording at least one actual signature (220j) for materials (M_j) each and at least one local computer (541) communicatively connected to the at least one measuring device (400), the at least one local computer having a local database (4) for storing and/or processing the actual signature (220j). The at least one central station (550) comprises a server (552) having a central data bank (7) for storing and/or processing the actual signatures (220j) of the local apparatus (510, 520, 530). Furthermore, the system (500) comprises a network (560), which communicatively connects the local computers (541) of the local apparatus (510, 520, 530) via the server (552) of the central station (550). The invention further relates to a corresponding method for operating a system (500), to an analysis method for identifying or distinguishing the materials, and to a measuring device for recording material properties of the materials (M_j).