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3.3 International System of Units

The **International System of Units** (or in the original French it is *Système international d'unités*) is the modern form of the metric system, and is the most widely used system of measurement. It comprises a coherent system of units of measurement built on seven base units. It defines twenty-two named units, and includes many more unnamed coherent derived units. The system also establishes a set of twenty prefixes to the unit names and unit symbols that may be used when specifying multiples and fractions of the units.

The system was published in 1960 as the result of an initiative that began in 1948. It is based on the metre-kilogram-second system of units (MKS) rather than any variant of the **centimetre-gram-second system** (CGS). SI is intended to be an evolving system, so prefixes and units are created and unit definitions are modified through international agreement as the technology of measurement progresses and the precision of measurements improves.

The motivation for the development of the SI was the diversity of units that had sprung up within the CGS systems and the lack of coordination between the various disciplines that used them.

The International System of Units consists of a set of **base units**, a set of derived units with special names, and a set of decimal-based multipliers that are used as **prefixes**.

A list of these base and derived units are in the next section.