

## **Euro conversion in spreadsheets**

**By Patrick O'Beirne, Systems Modelling Ltd. (<http://www.sysmod.com>)**

Thousands of millions of spreadsheets in the Eurozone will have to be converted to the euro currency by 1.1.2002 at the latest. Spreadsheets are a very important store of financial data. They may contain prices, quotations, contracts, payroll, interest and depreciation calculations, plans, budgets, financial report consolidations, and historical data. Starting from now, users can put into place the good practices that will make life easier in future.

Worksheets often duplicate some information that is also recorded elsewhere and was copied in by typing, copy & paste, DDE, ODBC, and macros. However, modifying the original data source will usually not update the same information in the worksheet. Therefore, there is a high risk of creating inconsistencies between worksheets and other information systems. All this is not immediately obvious on reading a spreadsheet as they are rarely documented.

### ***Worksheet Conversion***

To avoid double conversion, identify the currency unambiguously so you know what's converted and what's not.

Adopt the first principle in worksheet construction - put constants into their own cells. Place money input values into cells of their own, for ease both of identification and of change. If these cells are referred to more than once, give them range names so that formulas can have descriptive entries like `=Sale_Price*euro_to_iep_rate`.

Conversion tools exist for spreadsheets and word-processor documents. See the euro FAQ at <http://www.sysmod.com/eurofaq.htm> for a list of suppliers. But they suffer from the fundamental problem of not knowing which numbers represent quantities and which represent amounts. Money cells are rarely formatted as such; they may not even be formatted as 2 decimals, depending on the country. And the issue of whether conversion tools are more safely used by I.T. people or users is going to be argued internally. If it is known that every important worksheet will be touched in the time before the changeover to the euro, another approach is possible as follows.

Assuming that users have at least a year to go before general euro conversion is required internally, the idea is that people take the time to format each currency input cell as "money" as they use them. Over the period of a year, all sheets in use will get flagged. For good practice, one

agreed cell - such as A1 in the first sheet you see when the workbook is opened - should contain an annotation "currency flagged by POB on 28 July 2000" or similar.

At the end of a business cycle, say one year, all the used spreadsheets have been touched. Except those used only as external references, which have not been updated in a year. They will have to be checked by someone who knows the design of the system of linked spreadsheets.

When ready to change, run a macro that visits all the numeric cells of a workbook. If the format property is "Money", and the cell does not contain a formula, the macro applies the standard conversion factor division to it, and change the style to "Euro". The user will have to decide what is appropriate for rounding. There may be a lot of cells with two distinct types - amount of money for payment ("Money", rounded to 2 d.p.) and rates of charging "Money\_Rate" say), which will not be rounded.

There may be even simpler ways. Many people start the year with a blank standard template that fills up as the year progresses. In that case, all they have to do is create a new template, which may be no different in fact except for any carried-forward numbers, and adopt that from 1/1/2001 or whenever. If some data needs to be carried forward, it may be simpler to create an extra column or group of cells in the final saved version of one year's sheet that contains the converted values, and copying and pasting those values into the next year's sheet. If such redesign is being considered, take the time to implement another important principle of good worksheet design: designate an input area that keeps all input data together; and another area, with a range name, for data that is to be transferred in block to another worksheet.

If it is required to show parallel sets of data for both NC (National Currency) and euro, that requires a restructuring of the worksheet anyway. So the conversion can be built in then.

Excel 6, 95(7) and 97 users will be aware that there is no euro symbol (€) no the ISO code EUR in the table of three-letter-currency-abbreviations, only the obsolete XEU. The whole area of font support for Windows applications is covered in an article by John Gray entitled "Notes on the Euro Symbol" at <http://www.sysmod.com/euronotes.pdf> (409K).

*Patrick O'Beirne B.Sc. MA FICS is a software quality consultant with a special interest in the Euro changeover. His book "Managing the Euro in Information Systems: Strategies for Successful Changeover" was published by Addison-Wesley in 1999, ISBN 0-201-60482-5. <http://www.sysmod.com/maneuris.htm>*