

[21004001]



And IBM said it expects the costs to continue climbing .

[21004013]

IBM , which said Motorola is paying just a nominal fee to cover the 21-month agreement , acknowledged some companies had turned down its invitation to join in .

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But it said that was mainly because the project may not bear fruit until the mid-1990s .

[21004015]

IBM said it thought more companies would become interested as the project progresses .

[21004016]

The project involving Motorola concerns a technique , called X-ray lithography , that figures to be crucial to future generations of memory chips .

[21004017]

Currently , chips are produced by shining light through a mask to produce an image on the chip , much as a camera produces an image on film .

[21004018]

But details on chips must now be extraordinarily fine , and the wavelengths of even ultraviolet light are long enough so that the images they draw may be too blurry - much as someone using a wide paintbrush could produce a broad line but would have trouble painting a thin one .

[21004019]

X-rays , by contrast , travel straighter and can be focused more tightly than light .

[21004020]

X-rays have problems , too .

[21004021]

They can make the masks brittle and can pass through material they're not supposed to .