Probing the Future

MICRONICS JAPAN CO., LTD.

Feb. 2008

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Probing the Future

Business Field

SEMICONDUCTOR

Front-End Process

Back-End Process

Wafer

Wafer Test

Chip

Module

Final Test

Probe Card

Wafer Prober &Tester

Test Socket (IC Socket)

FPD(LCD)

Array Process

Cell Process

Module Process

Glass substrate

Array Test

Panel

Cell Test

Module

Prober & Probe Unit

Prober & Probe Unit

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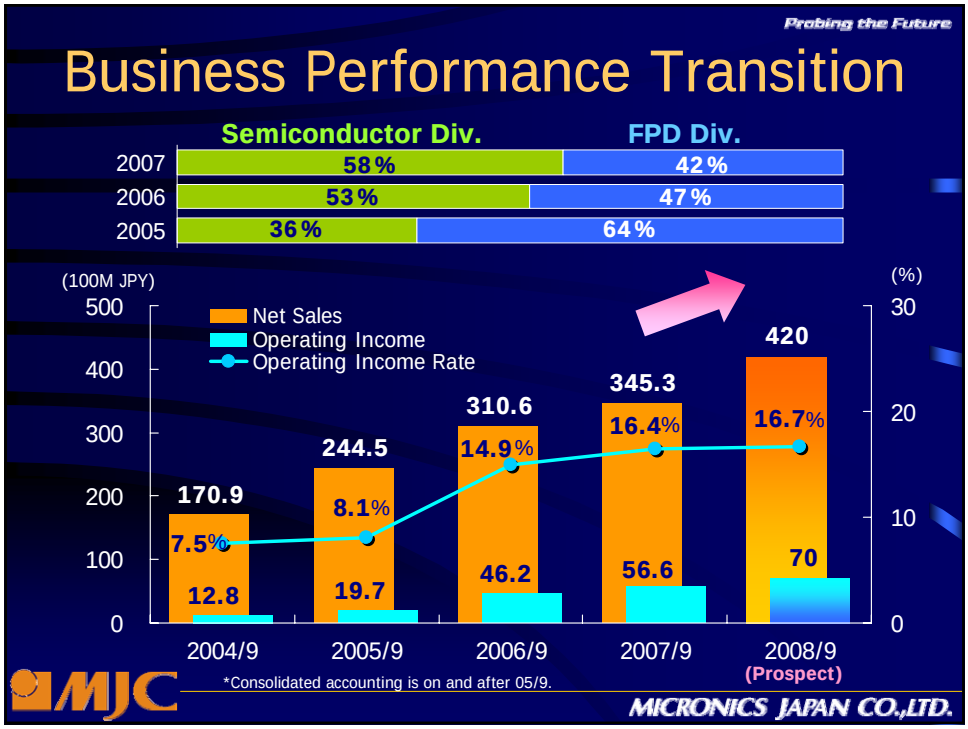
Probing the Future
Business Performance Transition
Semiconductor Div.
FPD Div.
2007
58%
42%
2006
53%
47%
2005
36%
64%
(100M JPY)
(%)
Net Sales
Operating Income
Operating Income Rate
500
400
300
200
100
0
30
20
10
0
170.9
244.5
310.6
345.3
420
7.5%
8.1%
14.9%
16.4%
16.7%
12.8
19.7
46.2
56.6
70
2004/9
2005/9
2006/9
2007/9
2008/9
(Prospect)
*Consolidated accounting is on and after 05/9.
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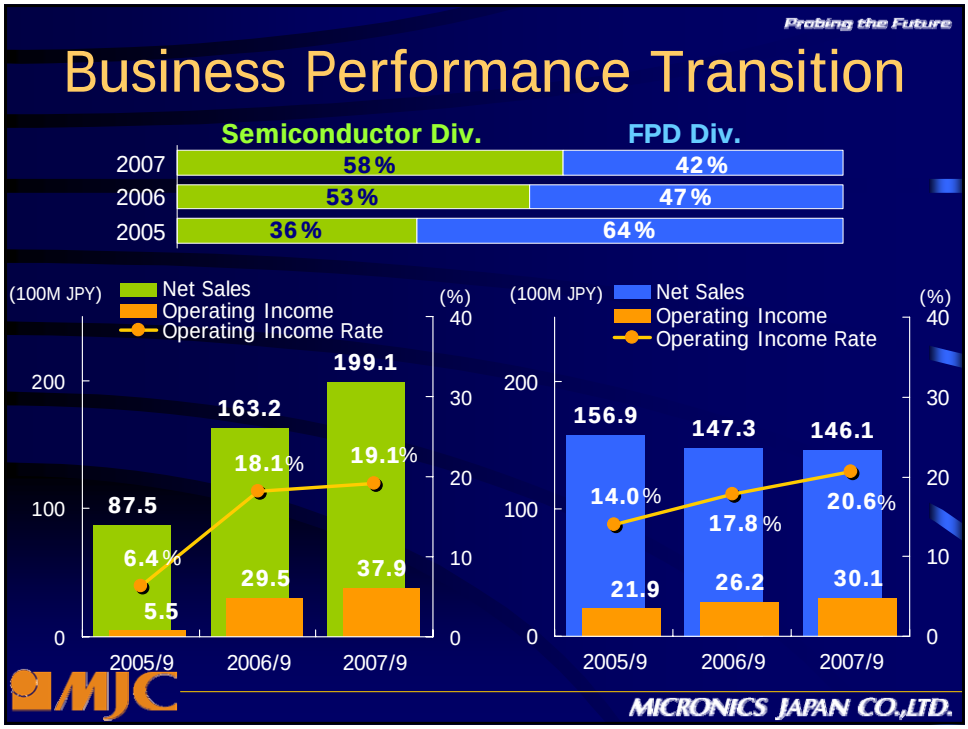
Probing the Future
Business Performance Transition
Semiconductor Div.
FPD Div.
2007
58%
42%
2006
53%
47%
2005
36%
64%
(100M JPY)
Net Sales
Operating Income
Operating Income Rate
(%)
200
100
0
40
30
20
10
0
87.5
163.2
199.1
6.4%
18.1%
19.1%
5.5
29.5
37.9
2005/9
2006/9
2007/9
(100M JPY)
Net Sales
Operating Income
Operating Income Rate
(%)
200
100
0
40
30
20
10
0
156.9
147.3
146.1
14.0%
17.8%
20.6%
21.9
26.2
30.1
2005/9
2006/9
2007/9
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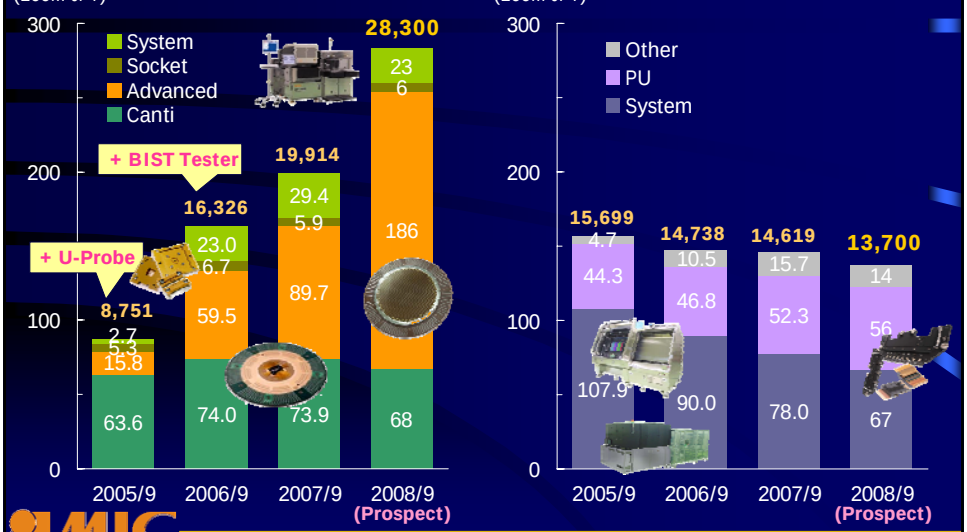
Business Performance Transition



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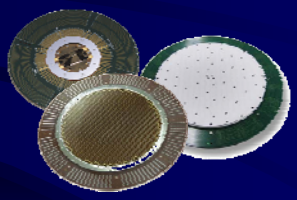
Semiconductor DIV.



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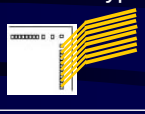
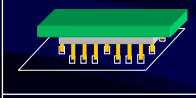
Probe Card Types

	Shape and features	Price	Market	Delivery	Method
Canti	Cantilever-type 	Low ↔ High	Vendor More ↔ Less	Short ↔ Relatively Long	Labor
Advanced	Vertical-type 				
Advanced	Lithography-type (MEMS, Membrane) 				Equipment

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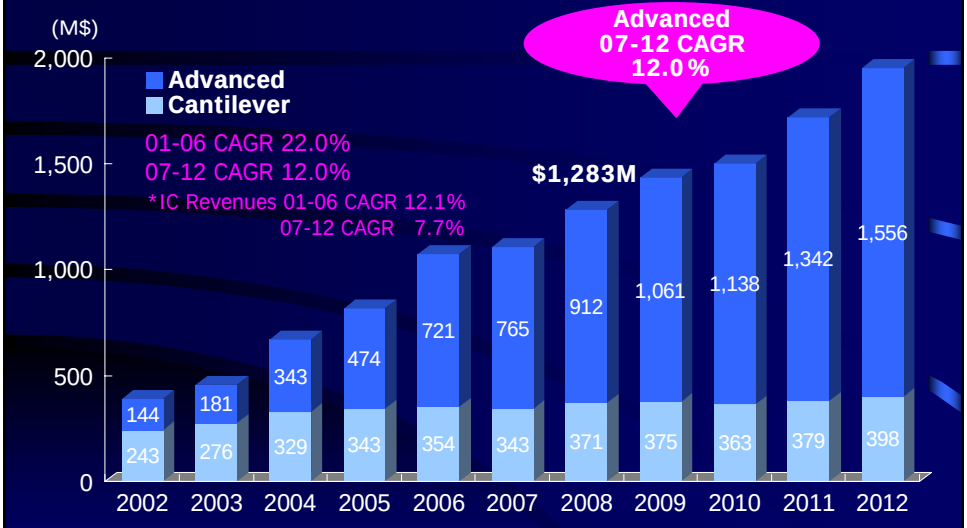
Probe Card Market



Source VLSI Research Inc May 2007

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Why Advanced Probe Card

- Improve Test efficiency
  - Most suitable multi-Die test
  - ex. DRAM Cantilever 64DUT, Vertical 128DUT, MEMS 256DUT/384DUT
- Response to miniaturized structure Device
  - Fine Pitch, small PAD, etc...
- Fit the Known Good Die（KGD）Test
  - At-speed Test, Wafer Level Burn IN（WLBI ）Test

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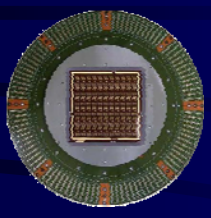
Comparative Test efficacy

- Flash

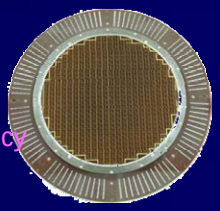
traditional (Solid)



<

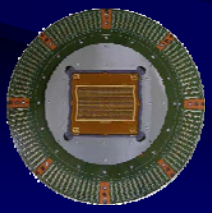
4 times efficiency

U-Probe for 12 inch



- DRAM

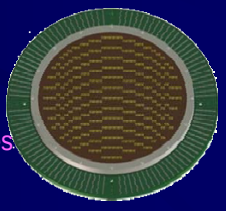
U-Probe traditional (Solid)



<

1.2~1.5 times efficiency

U-Probe Rainbow



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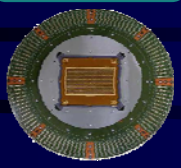
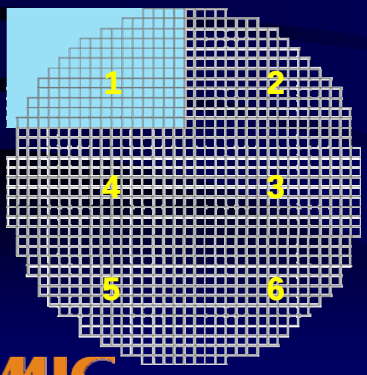
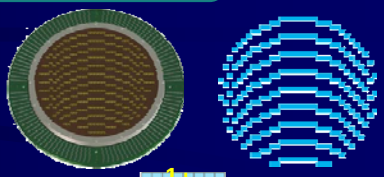
Change the DRAM testing

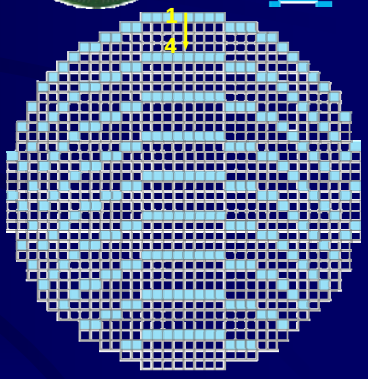
Solid design





Rainbow design





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What's coming next

- High pin counts

  Progress Shared testing or Install high performance tester make the Die counts at one touch testing increase.

- High speed

  High speed testing reduce test time

- High temperature adaptation

  Increase the demand for Wafer Level Burn IN（WLBI ）Test

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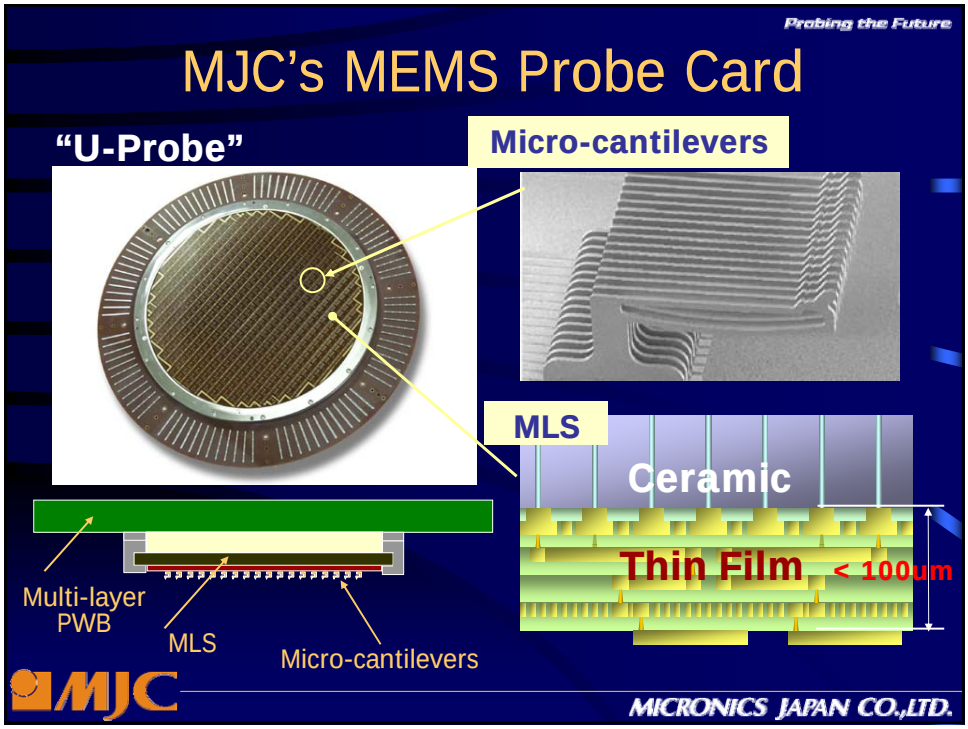
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MJC's MEMS Probe Card
"U-Probe"
Micro-cantilevers
MLS
Ceramic
Thin Film
< 100um
Multi-layer PWB
MLS
Micro-cantilevers
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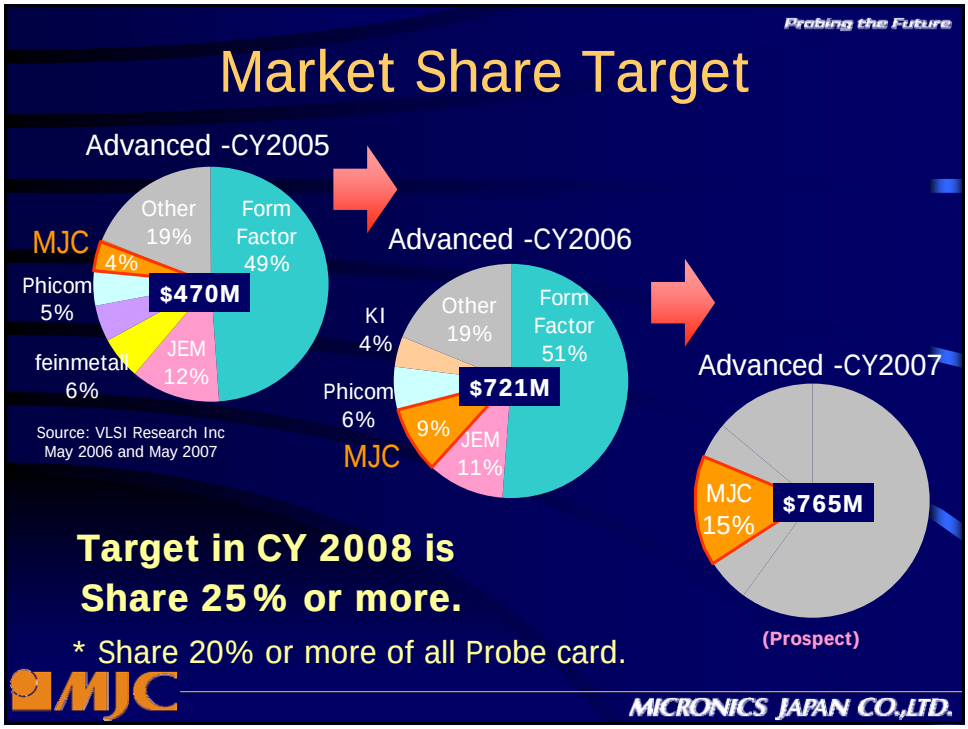
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Market Share Target
Advanced -CY2005
MJC 4%
Phicom 5%
feinmetall 6%
JEM 12%
Other 19%
Form Factor 49%
$470M
Source: VLSI Research Inc
May 2006 and May 2007
Advanced -CY2006
KI 4%
Phicom 6%
MJC 9%
JEM 11%
Other 19%
Form Factor 51%
$721M
Advanced -CY2007
MJC 15%
$765M
(Prospect)
Target in CY 2008 is
Share 25% or more.
* Share 20% or more of all Probe card.
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FPD DIV.

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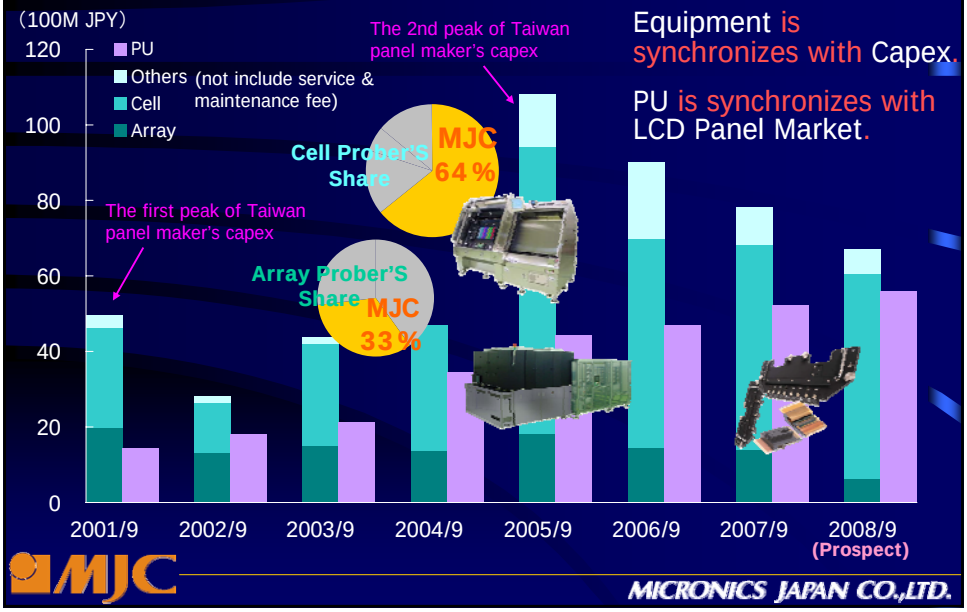
LCD Test Equipment



Equipment is synchronizes with Capex.

PU is synchronizes with LCD Panel Market.

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MJC's Repair System

	L company	MJC
Draw speed	△ 5um/s	◎ 30-100um/s
Draw width	○ 3um	△ 7um (5um wt Laser trim)
Resistively	△ Mo	◎ Au (15μΩ·cm)
Current capacity	△	○ 70 mA max
Step coverage	×	◎
Line Adhesion	◎	○
Material Safety	△	○
Machine Cost	×	◎
Running cost	○ Mo carbonyl	○ Au n-paste (40kus$/Y)
UHA/PFA application	×	◎

NEO-7500

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New Repair Method reduces Process

Current method

① 3rd PEP
Open/Short Test
L-CVD Repair
② PFA Process
③ Array test
Cell Process

MJC method

① 3rd PEP
② PFA Process
③ Array test
MJC Repair
Cell Process

None Open/Short test !

Note: UHA(Ultra high aperture), PFA(Polymer film on array) as organic passivation structure.

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MJC Repair's Merit

- Reduce O/S test process
- Short TAT
- Safety and low cost material
- High detect ability by Array test
- TFT full cover repair

Reduce test cost

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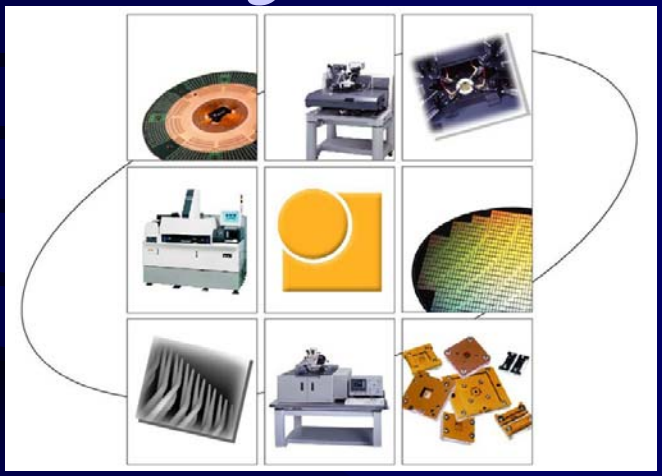

Notice

Contents in this presentation material such as the product situation in the market are described based on information we can collect at present. Also, our strategy and goals are based on our present situation. Thus, please keep in mind that actual market situation and our future situation may be quite different from the description and information in this presentation material.

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