



ITS WORLD CONGRESS 2017
Montréal | OCTOBER 29 - NOVEMBER 2

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**Improvement of
Automatic Toll Collection Machine**

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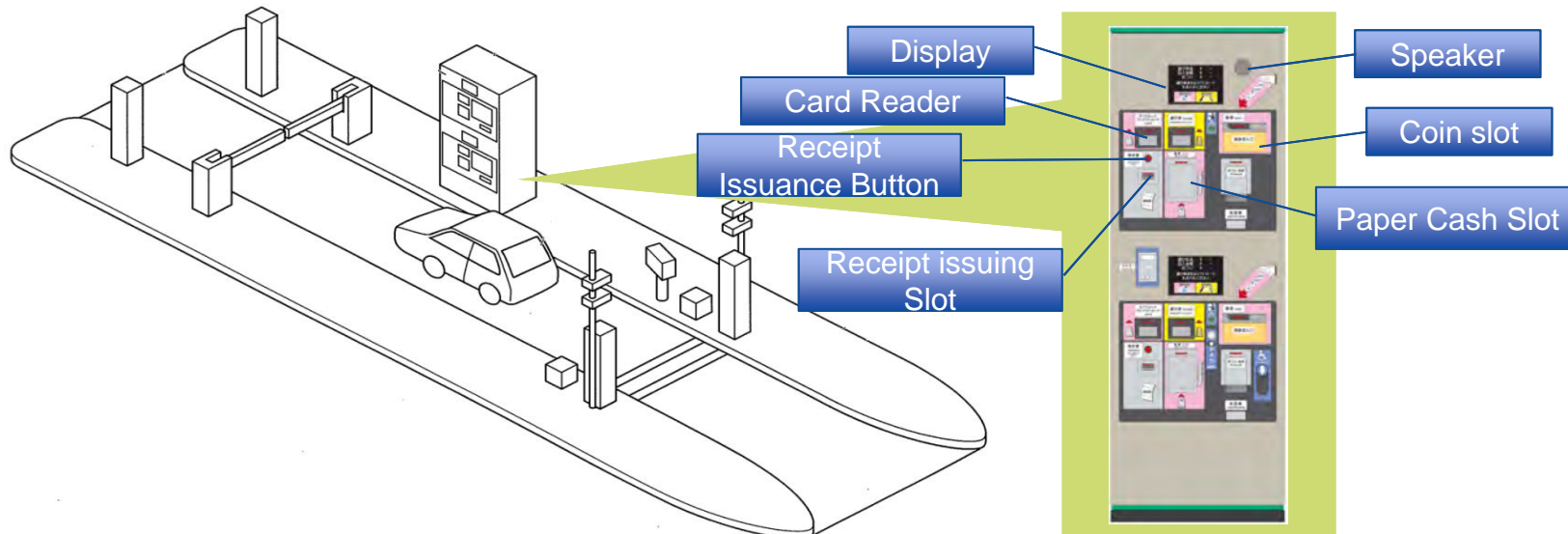
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1. Automatic Toll Collection Machine



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Automatic Toll Collection Machine



<Input>

- Pass Ticket (*)
- Cash
- Credit Card

(*) The motorists get a pass ticket at the entrance of the toll road.

<output>

- Display
- Voice guidance
- Receipt paper



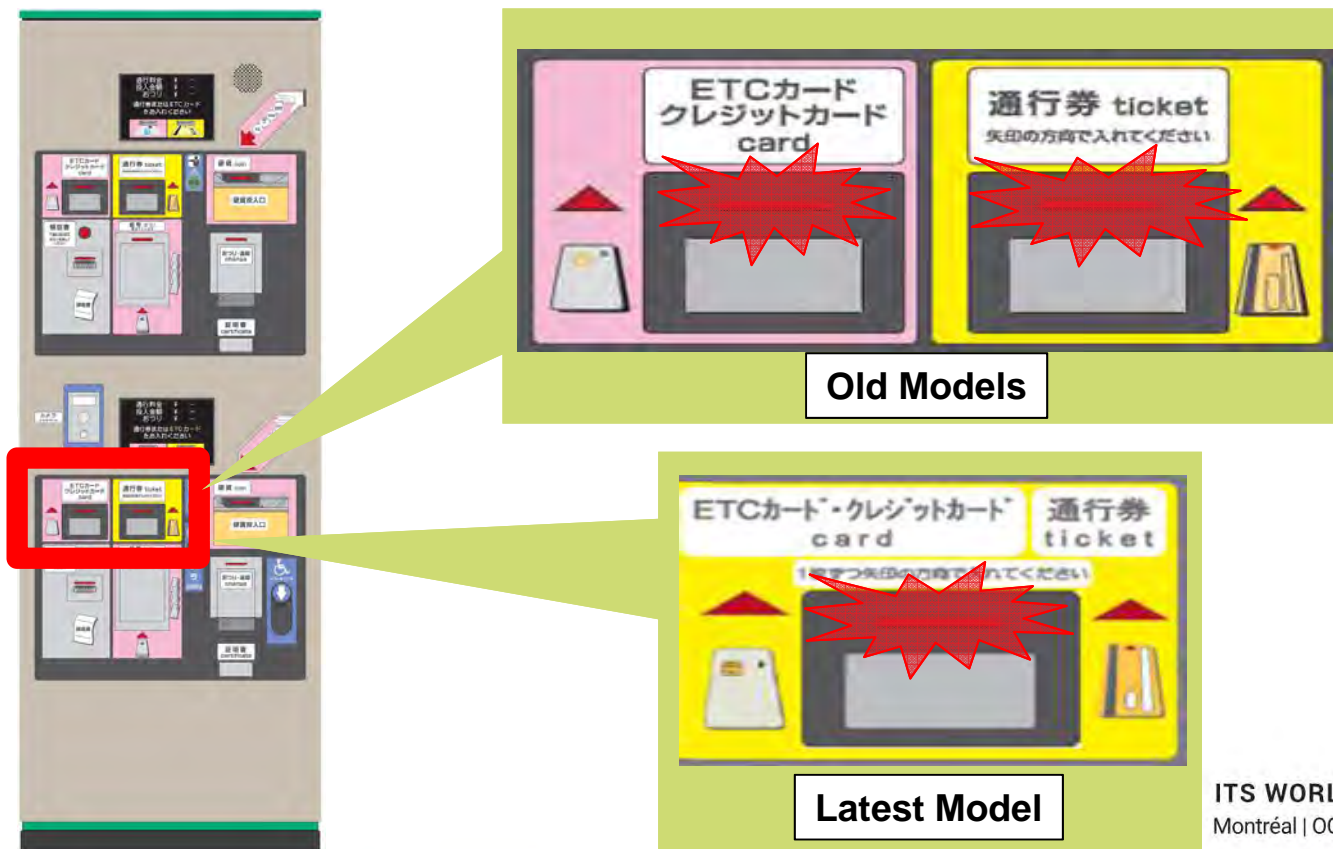
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2. Improvement of Card Reader Unit



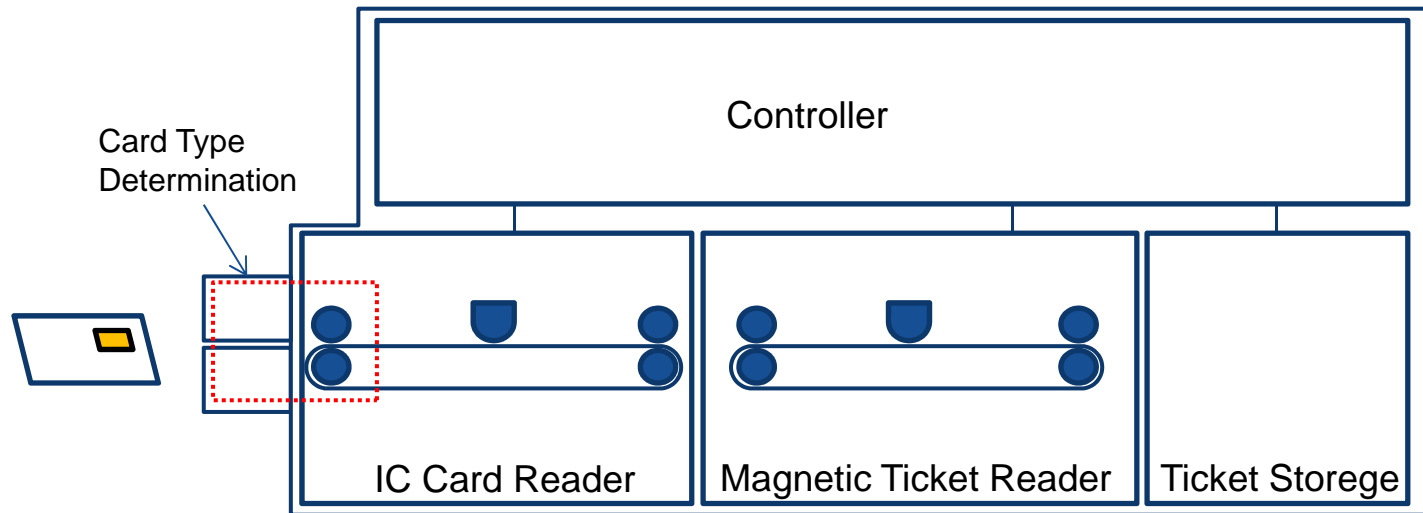
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Which slot shall be used to insert the card ?



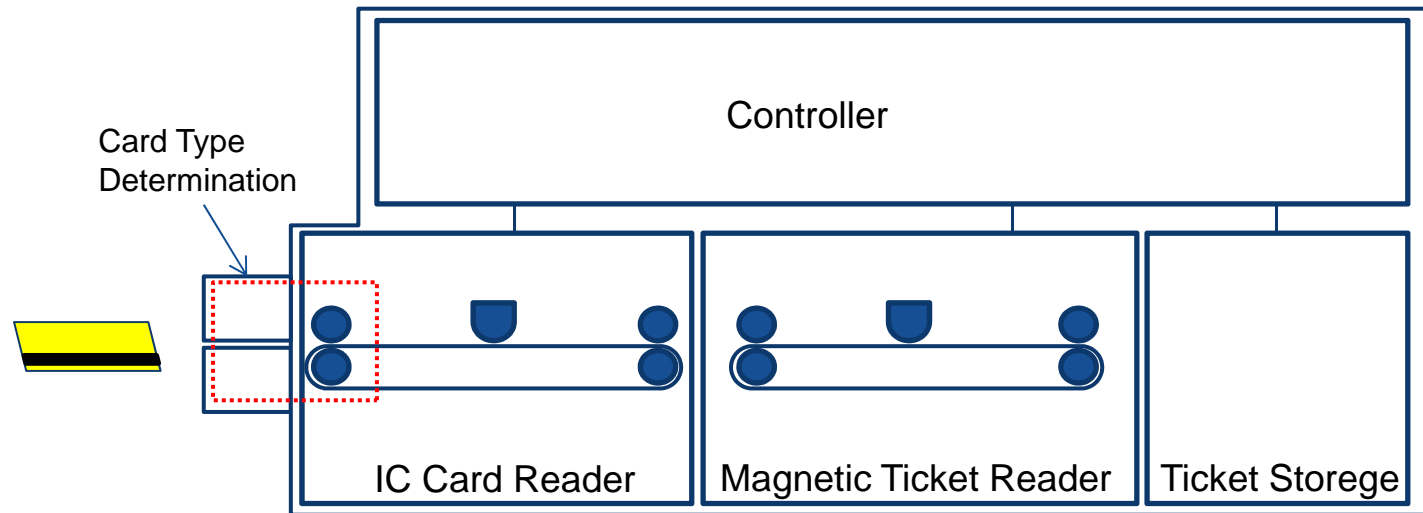
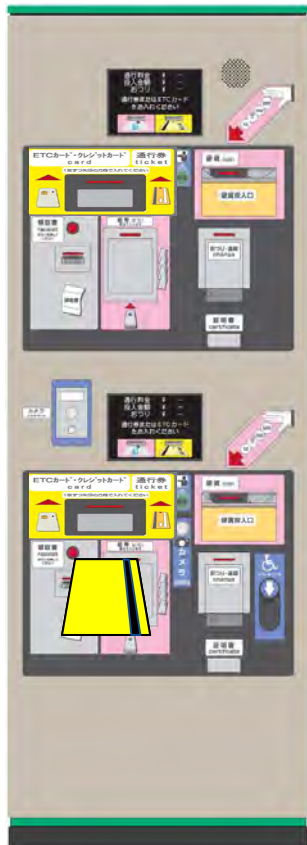
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Integrated Card Reader



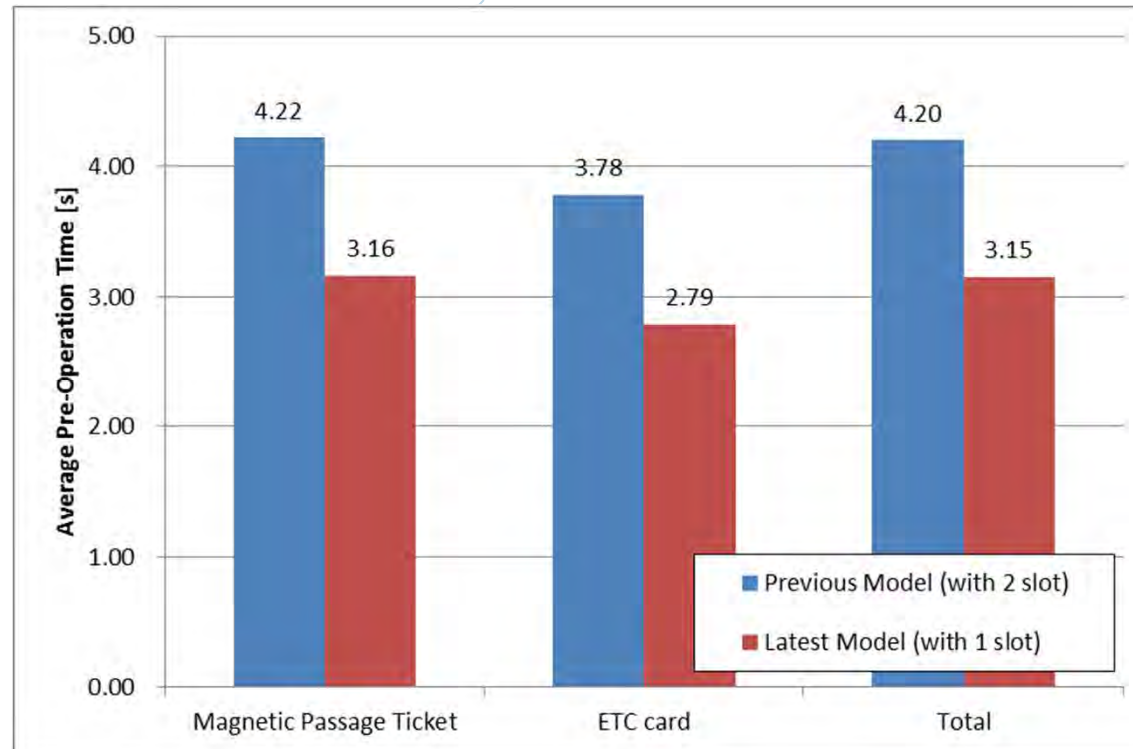
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Integrated Card Reader



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The effect



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3. Improvement of Receipt Issuing Unit

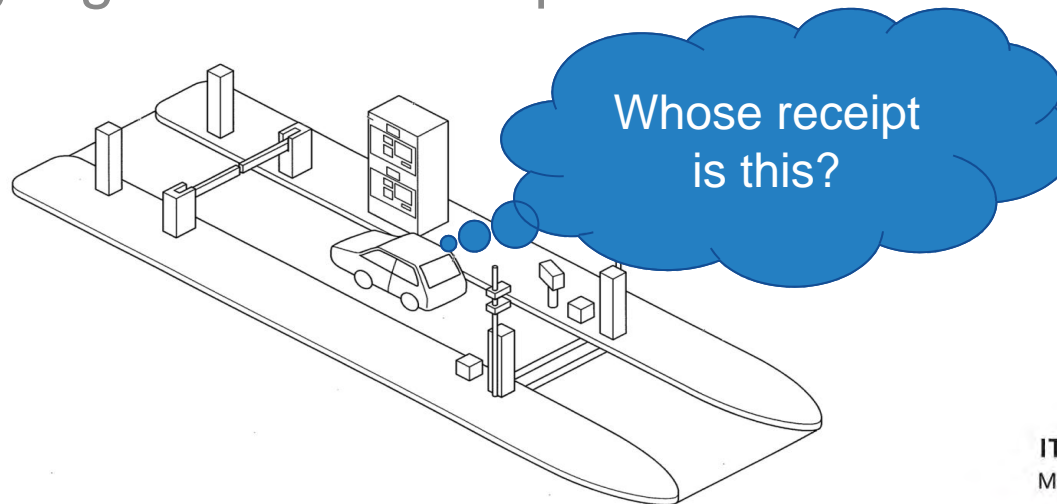


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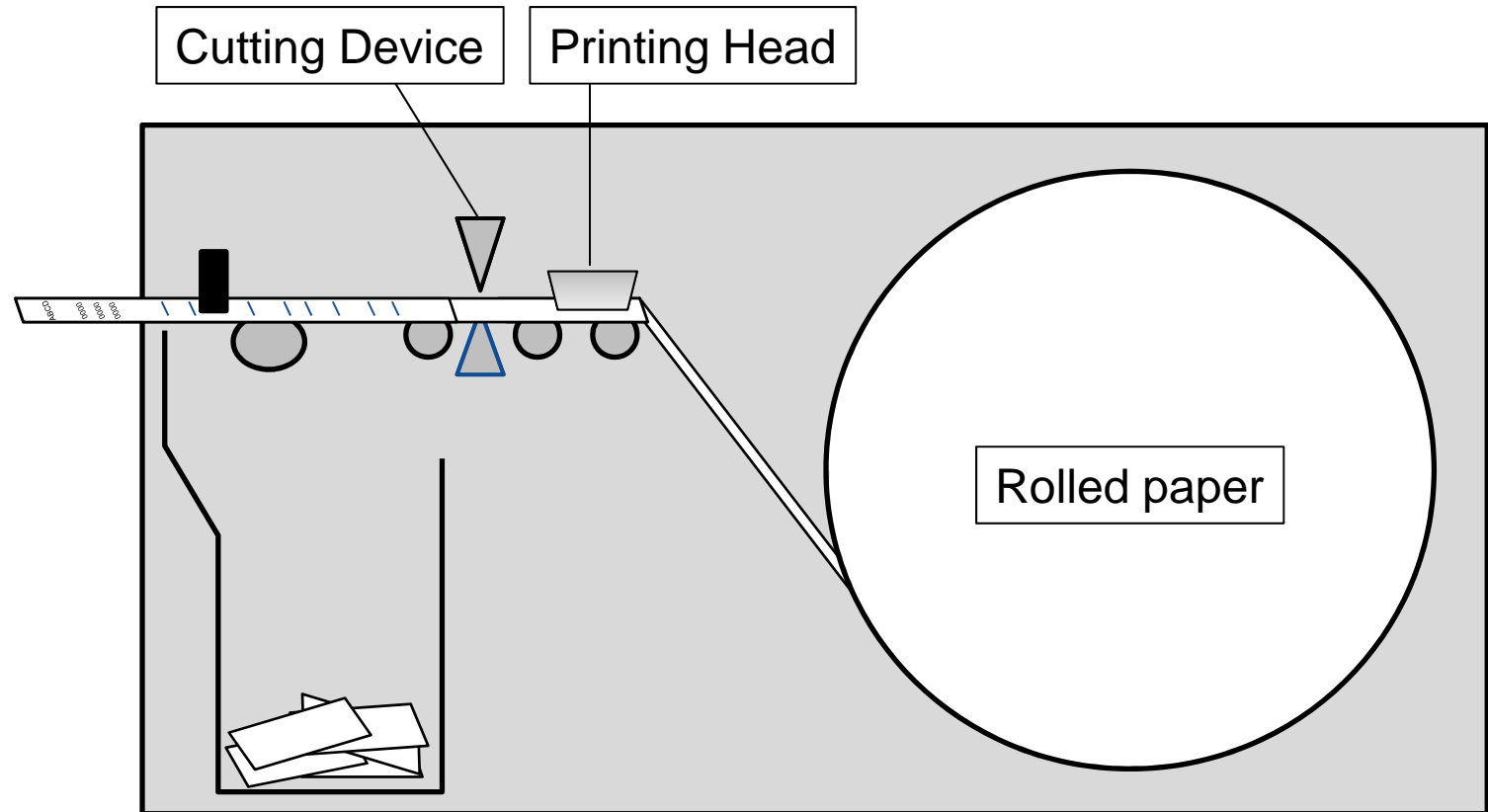
The Problem of a Left Receipt

- The left receipt may make confuse the following motorist.
 - He might get a wrong receipt.
 - He might get double receipts.

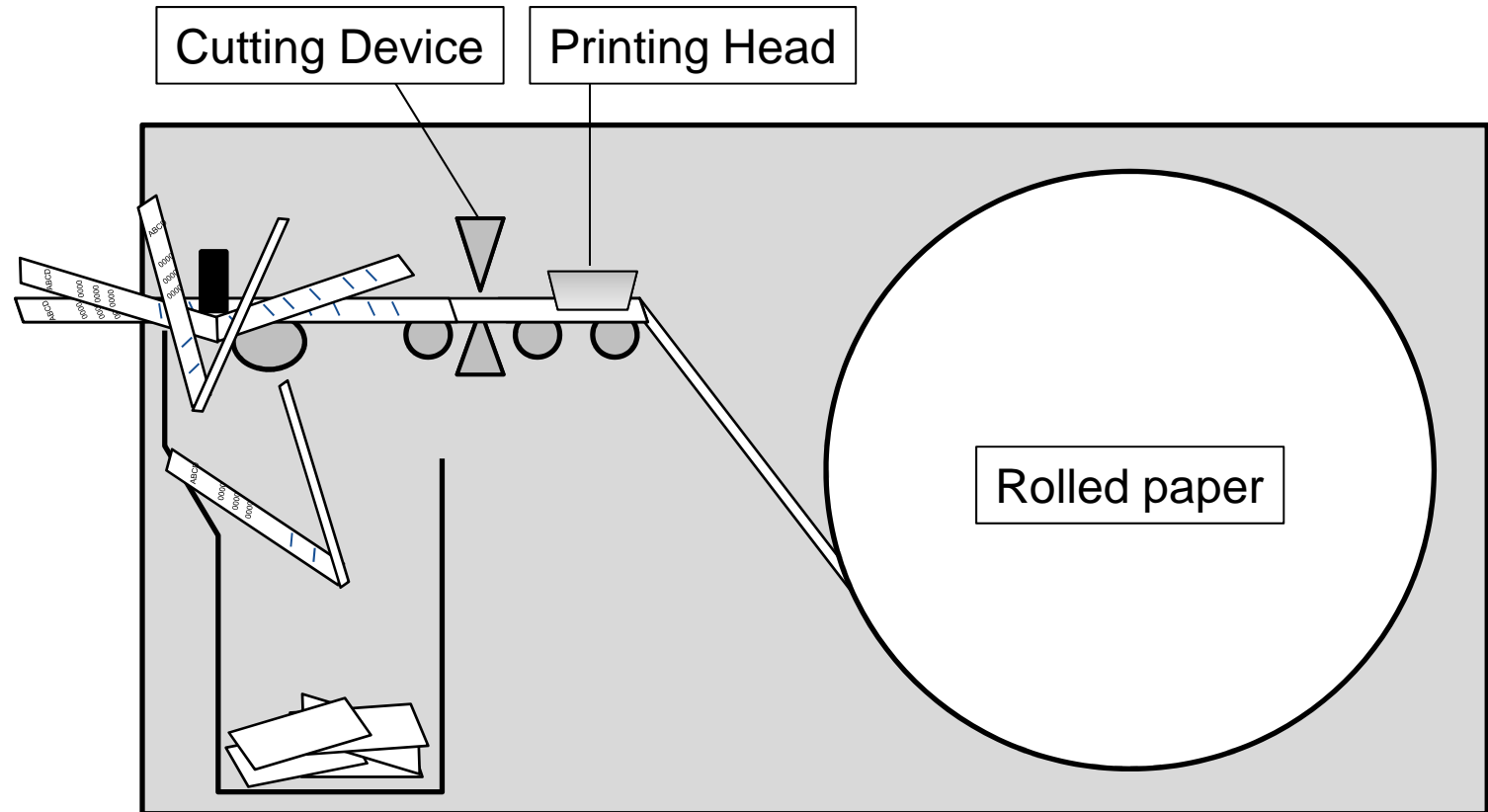


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Issuing Receipt



Automatically Retrieving Left Receipt



The Left Receipt Has Been Solved

Item	Latest Model
Issuing receipts (Approximately)	18,600 times
Left receipts (rate)	19 times (0.10%)
Automatic retrieving	19 times



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4. Summary

1. The new card reader with one slot can save about one second from the current one.
2. The new receipt issuing unit can retrieve the left receipt by 100% accuracy.



Q & A

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