

ROBOT WORLD

ROBOTS IN THE

FACTORY



TABLE OF CONTENTS

CHAPTER 1

What Do They Do? 4

CHAPTER 2

How Do They Work? 8

CHAPTER 3

Meet the Robots 16

ACTIVITIES & TOOLS

Try This! 22

Glossary 23

Index 24

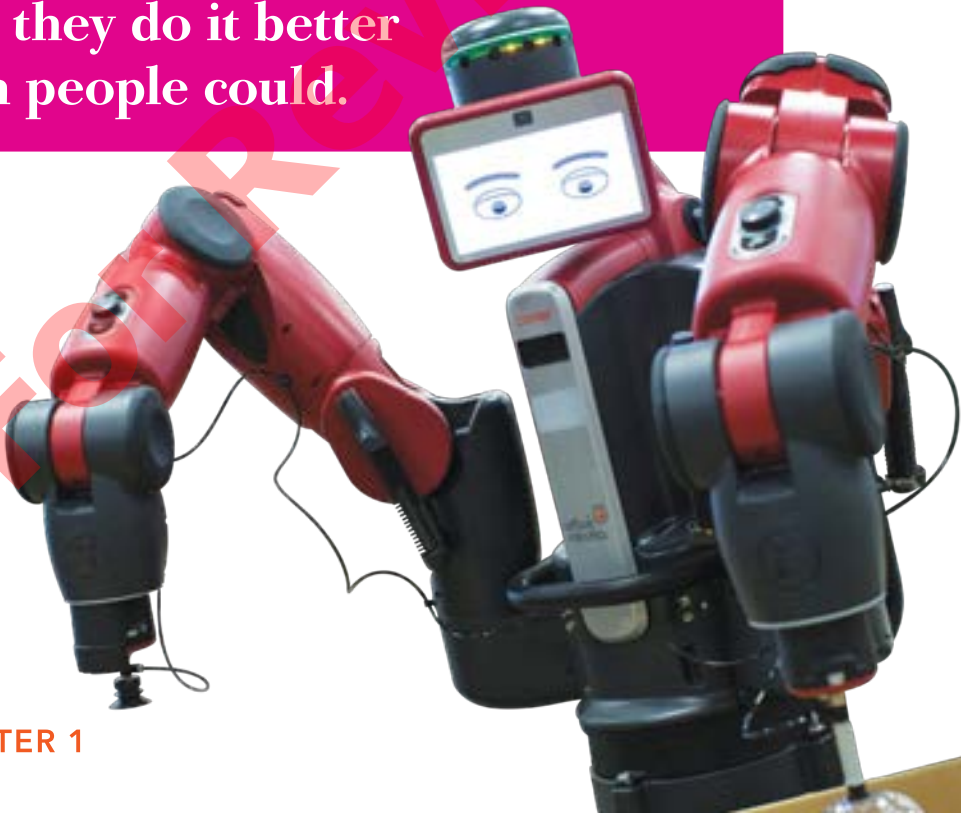
To Learn More 24



CHAPTER 1

WHAT DO THEY DO?

Robots **manufacture** our world. They build our cars. They **process** our food. Robots in the **factory** do work that is dangerous or dull. And they do it better than people could.



A photograph of a male worker in a warehouse setting, operating a forklift. He is wearing a dark blue long-sleeved shirt, a bright yellow high-visibility safety vest, and an orange hard hat. He is seated in the operator's seat of the forklift, with his hands clasped in his lap and his head tilted back, looking upwards with a weary or stressed expression. The background shows tall industrial shelving units filled with boxes, typical of a warehouse. A large, semi-transparent red watermark with the text "For Review Only" is diagonally across the image.

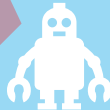
Robots always do their job perfectly.
They never get bored or careless.
They can work long hours. They never
have to eat or sleep.

Factory robots helped build the car or bus you take to school. They cut the metal and put the parts together. They painted body panels. They moved parts from place to place.

How do robots do so many different things?

DID YOU KNOW?

The word *robot* comes from the Czech word *robota*. It means "forced labor."





CHAPTER 2

HOW DO THEY WORK?

Robots are different from a machine like your dishwasher. Dishwashers are built to do one job. But robots can do many different things.



```

Filename=[Directory File Name];
tic; fid=fopen(Filename); ttc=fread(fid,40); ttc=fread(fid,42);
ttc=fread(fid,inf,'1206*uint8=>uint8',50);
% ttc=dec2hex(ttc);
% Determine how many data packets.
Packet=size(ttc)/1206;
% Convert data to single precision.
S1=single(ttc(2,:))*256+single(ttc(1,:));
S2=single(ttc(102,:))*256+single(ttc(101,:));
S3=single(ttc(202,:))*256+single(ttc(201,:));
S4=single(ttc(302,:))*256+single(ttc(301,:));
for i=0:10000 % Packets loop
    status(i+1)=(ttc(1205+i*1206)); value(i+1)=(ttc(1206+i*1206));
end
a=[85 78 73 84 35];
fclose(fid);
toc;
Ind=strfind(value,a);
% Loop through 64 lasers.
for i=1:64
    temp=single(value(Ind(i)+64*(i-1)+16:Ind(i)+64*(i-1)+16+7));
    temp1=single(value(Ind(i)+64*(i-1)+32:Ind(i)+64*(i-1)+32+7));
    temp2=single(value(Ind(i)+64*(i-1)+48:Ind(i)+64*(i-1)+48+7));
    temp3=single(value(Ind(i)+64*(i-1)+64:Ind(i)+64*(i-1)+64+7));
    LaserId(i)=temp(1);
% Add high and low bytes of Vertical Correction factor.
    positive or negative correction factor.
    VerticalCorr(i)=temp(3)*256+temp(2);
    if VerticalCorr(i)>32768
        VerticalCorr(i)=VerticalCorr(i)-65536;
    end
% Scale Vertical Correction Factor by Dividing by 100.
    VerticalCorr(i)=VerticalCorr(i)/100;
end

```

Factory robots work off of **programs**. Programs can be changed. They can be replaced by other programs.