Robots.

Robots are needed in industry. They bring many benefits to workers as well as company owners by taking care of difficult and dangerous jobs and by being cost effective. They constitute another tool in manufacturing sites that contain, for example, advanced assembly lines. The concept of a robot goes back as far as the Egyptians time. Early ideas about the use of robots presented problems in terms of their functions to society and the way in which they affected the opportunities of skilled workers. However, robots managed to stay in industry for good. Presently, single purpose systems, like welding or palletizing robots, are dominating the market. At the beginning of 1998, analysts estimated the robotics industry at $8 billion worldwide. Further developments in the robotics field will be driven by the development in related industries such as the industry of sensors and the industry of chips. Future customers will probably ask for robots with more autonomous capabilities. This idea is driving robot-manufacturing companies to consider new developmental areas in the field of robotics.
In general, the sections below will basically explore, in order, the concept of a robot this project is concerned with, the history of robots in industry, a more detailed study on the robots market and the nations that use them, the current status of the industry, and possible future trends.

The word "robot' was coined by Karel Capek who wrote a play entitled "R.U.R." or "Rossum's Universal Robots" back in 1921. The base for this word comes from the Czech word 'robotnik' which means **'worker'.** In his play, machines modeled after humans had great power but without common human failings. In the end these machines were used for war and eventually turned against their human creators.
But even before that the Greeks made movable statues that were the beginnings of what we would call robots.
For the most part, the word "Robot" today means any man-made machine that can perform work or other actions normally performed by humans. Most robots today are used in factories to build products such as cars and electronics. Others are used to explore underwater and even on other planets. Robots have 3 main components:

- Brain - usually a computer
- Actuators and mechanical parts - motors, pistons, grippers, wheels, gears

- Sensors - vision, sound, temperature, motion, light, touch, etc.

With these three components, robots can interact and affect their environment to become useful.
Since robots are used mainly in manufacturing, we see their impact in the products we use every day. Usually this results in a cheaper product. Robots are also used in cases where it can do a better job than a human such as surgery where high precision is a benefit. And, robots are used in exploration in dangerous places such as in volcanoes, which allows us to learn without endangering ourselves.

Advantage of robots

With the advancements of robotics, people would have the ability to create a robotic version of themselves by "uploading" their conscience (brain) to a robotic body. By no longer residing in a carbon-based body, repairs and maintenance could be easily improved, leading to near immortality.
Also, with intelligent robots at our command, humans could let robots do everything for them, giving people freedom from mundane or hazardous tasks, and creating more leisure time.
Robots can do things we humans just don't want to do, and usually do it cheaper. Robots can do things more precise than humans and allow progress in medical science and other useful advances.

Disadvantages of robots

As with any machine, robots can break and even cause disaster. They are powerful machines that we allow to control certain things. When something goes wrong, terrible things can happen. Luckily, this is rare because robotic systems are designed with many safety features that limit the harm they can do.
There's also the problem of evil people using robots for evil purposes. This is true today with other forms of technology such as weapons and biological material.
Of course, robots could be used in future wars. This could be good or bad. If humans perform their aggressive acts by sending machines out to fight other machines, that would be better than sending humans out to fight other humans. Teams of robots could be used to defend a country against attacks while limiting human casualties. Either way, human nature is the flawed component that's here to stay.

Job Displacement

Some people are concerned that robots will reduce the number of jobs and kick people out of their jobs. This is almost never the case. The net affect of advanced technology such as robots (or cars, electric drills and other machines) is that humans become more productive.

Disadvantages of continuing advancements on Robotics

Continuing advancements on Robotics and Artificial Intelligence, really one in the same, poses many potential hazards. Due to the advantages of silicon-based over carbon-based life forms, they could replace or enslave us, due to superior strength, speed, and lack of morals inherent with AI - among many other things.

For one, they would be able to self-replicate, which would make them nearly impossible to stop. With their built-in intelligence, they could make duplicate upon duplicate of themselves in a short amount of time.

Because they would be able to think, Robots would be tremendously more dangerous than nuclear weapons. Due to their supposedly unbiased reasoning and logic, robots could easily be placed in positions of power, thereby disrupting the political scene worldwide. If robots could think to do things for themselves, then they would take over skilled and unskilled labor jobs, leaving millions jobless. Robots pose a serious quandary in their classification.

The Future Of Robotics

The population of robots is growing rapidly. This growth is lead by Japan that has almost twice as many robots as the USA. All estimates suggest that robots will play an ever-increasing role in modern society. They will continue to be used in tasks were danger, repetition, cost, and precision prevents humans from performing.

Some Definitions Of The Word Robot And Other Relevant Words:

Robot

Or automaton, mechanical device designed to perform the work generally done by a human being. The Czech dramatist Karel Capek popularized the expression [from Czech, = compulsory labor] in his play *R. U. R. (Rossum's Universal Robots),* produced in Prague in 1921. Modern robotics has produced innumerable devices that replace human personnel and the term

robot is used to designate much of this machinery. It is used frequently in fiction, referring to a self-controlling machine shaped like a human being.

Robot

A mechanical device for performing a task which might otherwise be done by a human, e.g. spraying paint on cars.

Robotics

Science and technology of general purpose, programmable machine systems. Contrary to the popular fiction image of robots as ambulatory machines of human appearance capable of performing almost any task, most robotic systems are anchored to fixed positions in factories where they perform a flexible, but restricted, number of operations in computer-aided manufacturing. Such a system minimally contains a computer to control operations and effecters, devices that perform the desired work. Additionally, it might have sensors and auxiliary equipment or tools under its control. Some robots are relatively simple mechanical machines that perform a dedicated task such as welding or spray painting. Other more complex, multitask systems use sensory systems to gather information needed to control its work. A robot's sensors might provide tactile feedback, so that it can pick up objects and place them properly, without damaging them. Another robot sensory system might include a form of machine vision that can detect flaws in manufactured goods. Some robots used to assemble electronic circuit boards can place odd-sized components in the proper location after visually locating positioning marks on the board. The simplest form of mobile robots, used to deliver mail in office buildings or to gather and deliver parts in manufacturing, follow the path of a buried cable or a painted line, stopping whenever their sensors detect an object or person in their path. More complex mobile robots are used in more unstructured environments such as mining.

Artificial Intelligence

The subfield of computer science concerned with the concepts and methods of symbolic inference by computer and symbolic knowledge representation for use in making inferences. AI can be seen as an attempt to model aspects of human thought on computers. It is also sometimes defined as trying to solve by computer any problem that a human can solve faster.
Examples of AI problems are computer vision (building a system that can understand images as well as a human) and natural language processing (building a system that can understand and speak a human language as well

as a human). These may appear to be modular, but all attempts so far (1993) to solve them have foundered on the amount of context information and "intelligence" they seem to require.

My Thoughts

I think that robots are good and better the workplace to make jobs easier and quicker. Also they can perform dangerous task such as jobs with chemicals. It is better for the employee because they are cheap and can work 24 hrs, but the workers are out of a job.
Technology is changing all the time and robots are becoming more and more powerful. We all depend on robots very much and this dependency will grow. But robots can break down or get a virus.
But over all I think robots will become better and better.