• mine surveying (the error reaches decimeters, the range is more than a kilometer) [1].

The last three classes, in terms of their ability to solve various types of problems, can be attributed to the category of geodetic 3D scanners. These scanners are used to perform laser scanning work in architecture and industry.

The viewing angle is another important parameter that determines the amount of data collected from one standing point, convenience and final speed of work. Currently, all geodetic laser scanners have a horizontal viewing angle of 360 °, vertical angles range from 40-60 ° to 300 ° [2].

Benefits of terrestrial laser scanning:

• unsurpassed shooting speed (from 50,000 to 1,000,000 measurements per second);

• reflectorless measurement technology, indispensable when performing work on laser scanning of hard-to-reach objects, as well as objects where finding a person is undesirable (impossible);

• high degree of automation, practically eliminating the influence of subjective factors on the result of laser scanning;

• compatibility of the obtained data with the formats of programs for 2D and 3D design of the world's leading manufacturers (Autodesk, Bentley, AVEVA, Intergraph, etc.);

• initial "three-dimensionality" of the received data;

• low share of the field stage in the total labor costs.

Although the first scanning systems are relatively recent, laser scanning technology has proven to be highly effective and is actively replacing less productive measurement methods.

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DIGITAL HELP FOR BLIND PEOPLE

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Nowadays, the Internet gives a wide variety of possibilities to be an active member of social life. It unites the global community of users into the whole and at the same time recognizes individuals. Internet technologies allow a person with disabilities to live more fulfilling life in the modern society in a way that has never been possible before. Today's reality is that most activities in our life are carried on through the worldwide web, especially during the COVID-19 pandemic period. So, it is important to make online processes accessible and understandable for everyone.

Any software or equipment that helps people who are particularly or totally blind to interact with computers and smartphones are called assistive technology tools. The most popular assistive software is a screen reader. There are many screen readers available, including *JAWS* from *Freedom Scientific, NonVisual Desktop Access, COBRA* and so on. To a successful navigation in the world visually impaired people can use NavCog which provides real-time information about where an individual is, which direction they are facing, and other information about the surroundings. Also an

application called *EyeNote* can communicate the value of paper money via tone, vibration or spoken word that is a real aid for blind individuals during making purchases or transactions [1].

There is also a complementary addition to the reader – the Braille display – a special kind of keyboards. Its duty is to display in Braille the same information which is announced with the oral speech. In practice, this means driving a Braille output device - a row of Braille cells with mechanical pins that pop up and simulate Braille characters under the user's fingers - or, more commonly, a text-to-speech synthesizer [2]. In complex, these assistants provide users with better information about the layout of the screen, possible actions and your current position on a website.

Increasingly, companies are realizing that expanding Internet accessibility for people with disabilities provides a range of business benefits. The survey results show that investment in accessible information and computer technologies gives the opportunities to achieve such business goals as: opening up new markets; maximization of employee engagement and productivity; providing high quality products and services; improving of supply chain management; minimizing risks of litigation. One of the most important aspects in service, especially online, is its affordability. Companies should focus on flexible design and promotion of assistive technology. For instance, some Internet pages have a version for blind people. Moreover, perfect idea is to install a special voice assistant or a call-button. By clicking this button a person could activate an info-bot, which will sound information tabs available on a site. One more advantage of such service is the opportunity to put voice question to the bot and have answers immediately, actually not only answers, but also instructions about the following actions. Providing flexible design ('design for all') means that no more additional devices are needed.

From the presented above analysis we can conclude that technology is playing a vital role in tearing down barriers, and artificial intelligence is making real inroads into improving accessibility. As a result, people with disabilities have access to plenty of assistive services which help them fully participate in social life and connect to the world.

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HYDROGEN ENGINES: A TECHNOLOGY OF THE FUTURE OR AN INEFFECTUAL EXPERIMENT?

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The question of alternative energy source for vehicles has been acute for the last few decades. Electric cars are the most popular offering of the modern industry but not the only one.

The purpose of this article is to analyse the advantages and disadvantages of hydrogen engines. Vehicles based on hydrogen combustion engines became as accessible as never before. For example, in 2007 *BMW* has launched limited car series called 'Hydrogen 7'. The first serial model was launched by Toyota in 2014 and was called '*Mirai*'.