

# COLLOID<sup>Ag+</sup>



NEW INTELLIGENT TECHNOLOGY



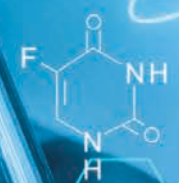
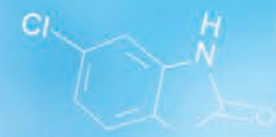
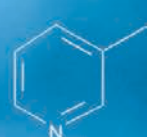
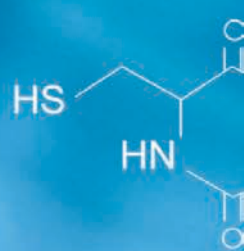
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# O KOMPANIJI

Koloid je visoko tehnološka nacionalna kompanija sa sedištimama u Beogradu, Moskvi, Kanadi, Kipru i Nemačkoj, kao i poslovnica u širem regionu, čija se osnovna delatnost već punih 15 godina bazira na proizvodnji i razvoju preparata za očuvanje zdravlja i lepote, kao i zaštitnih preparata na bazi tehnologije jona srebra.

Generaciju svojih pametnih proizvoda, naš ekspertski tim stručnjaka pojačao je inovacijom u svom tehnološkom razvoju, implementirajući veštačku inteligenciju (mobilne robote) za aerosolnu dezinfekciju prostora koloidnim srebrom, kao visoko tehnološku uslugu.

Reč je o tehnološkom dostignuću - robotu, koji ravnomerno raspršuje najsitnije čestice koloidnog srebra u okolni prostor, pri čemu vrši efikasnu neutralizaciju patogena i prečišćava vazduh. Svoju široku primenu robot nalazi u bolnicama, stacionarnim ustanovama, školama, na aerodromima, u poslovnim zgradama, tržnim centrima, fabrikama, kao i na drugim javnim mestima.

Efikasnost koloidnog srebra i komparativnu prednost u odnosu na ostale proizvode za dezinfekciju, potvrdili su i u svojim istraživanjima vrhunski stručnjaci sa Instituta za nuklearna istraživanja Vinča, Instituta za javno zdravlje Kragujevac, Tehnološko-metalurškog fakulteta u Beogradu, kao i akreditovane laboratorije.

Sa konceptom „Generacija inteligentnih proizvoda“, Koloid je, osim razvoja zdravstvenih i kozmetičkih preparata, posvećen promociji revolucije poslovne efikasnosti u sferi nano tehnologija i stvaranju više vrednosti za korisnike.

Naši stručni resursi i tim eksperata iz oblasti farmacije, hemije i tehnologije, podržani profesionalnim timom za istraživanje i razvoj inovativnih tehnologija, će i u budućnosti raditi na lansiranju visokotehnoloških proizvoda, kao pionira tehnologije i lidera nove generacije inteligentnih mobilnih robota, kako u Srbiji, tako i u svetu.

Naročitu pažnju poklanjamo proveri kvaliteta svake pojedinačne serije proizvoda, a naš rad se odvija striktnom primenom ISO 9001, ISO 13485, ISO 14001, GMP cosmetics (ISO 22716) i HACCP standarda, za koje posedujemo i međunarodno priznate sertifikate. Korisnici Evropske Unije, Rusije i Kanade uveliko su prepoznali naš kvalitet, te Colloid brand stiče renome i na svetskom tržištu.

Prateći najnovije trendove u nauci i visokoj tehnologiji, Koloid koristi najmodernija tehnološka dostignuća, a u cilju najvišeg standarda usluga, čime će, kao i do sada, kreirati biomedicinske materijale široke namene i na taj način pružati neophodnu i kompletnu zaštitu.

## ABOUT COMPANY

Koloid is a high-tech national company operating from Belgrade, Moscow, Canada, Germany and Cyprus, and via regional branches with 15-years' experience in developing and manufacturing health and beauty products, and silver-ion based protection products.

The smart product generation has been complemented by our expert team through technological innovation, harnessing artificial intelligence (mobile robots) for use in indoor aerosol disinfection with colloidal silver, as a high-tech service.

It is the latest technological development – a robot, which evenly sprays the finest colloidal silver particles into the surrounding area, efficiently neutralising pathogens and purifying the air. The robot is widely used in hospitals, stationary institutions, schools, airports, commercial buildings, shopping malls, factories, and other public places.

The efficiency of colloidal silver and its comparative advantage over other disinfection products have been validated by senior researchers at the Institute for Nuclear Research Vinca, Institute of Public Health Kragujevac, Faculty of Technology and Metallurgy in Belgrade, as well as accredited laboratories.

Applying the 'Intelligent Product Generation' concept, Koloid, in addition to developing health-boosting and cosmetic products, is dedicated to promoting the revolution of business efficiency in nanotechnology and creating added value for our customers.

Our excellent resources and expert team in pharmacy, chemistry and innovative technology - supported by our professional research and development team - will continue to work on launching high-tech products as technological pioneers and leaders in next-generation intelligent mobile robots both in Serbia and globally.

We place considerable emphasis on quality assurance for each product lot and the strict application of ISO 9001, ISO 13485, ISO 14001, GMP cosmetics (ISO 22716) and HACCP standards, for which we hold internationally recognized certificates. Customers in the EU, Russia and Canada have recognized our quality, which has bolstered the Colloid brand's reputation on the global market too.

By keeping abreast of trends in science and high-tech, *Koloid* employs state-of-the-art technological advancements to ensure the highest service standards, providing its customers, as it has done so far, with a wide range of medical materials and by doing so affording the full protection needed.







# MOĆ SREBRA AG<sup>+</sup>

Termin „koloid“ prvi put se spominje u 19. veku, kada ga je škotski hemičar Tomas Graham upotrebio da bi označio rastvor koji sadrži izuzetno sitne čestice. To su najsitnije čestice veličine 0,001 mikrona koje plivaju u vodi koncentracije 10 ppm (10 čestica srebra na milion čestica vode, ili 10 mg/L).

Mnogi istraživači u poslednje vreme dokazuju fenomenalnu korist srebra kada su u pitanju virusi i bakterije. U pitanju je mehanizam reprodukcije virusa u organizmu, koji je ranjiv na učinak srebra, pa se iz tog razloga ćelija u prisustvu srebra „guši“.

Joni srebra sprečavaju  
odvijanje  
DNK bakterija  
i trajno blokiraju  
njihov proces replikacije

Efikasnost srebra u  
eliminaciji patogena  
je dokazana  
na više od  
650 oboljenja organizma

Joni srebra se vezuju  
za ćelijsku membranu bakterija

Ćelije organizma  
se obnavljaju  
u prisustvu  
srebrnih jona

## U čemu je snaga koloidnog srebra?

Prema sprovedenim studijama koloidno srebro deluje na naše telo na tri različita načina:

✓ **Katalitičkom oksidacijom:** Kiseonik reaguje sa srebrom, dajući srebro-oksidi. Taj proces daje energiju potrebnu da ćelija deluje, stvarajući adenozin trifosfat (ATP), izvor energije koji ćelija može direktno da koristi.

✓ **Reakcijom sa ćelijskom membranom bakterija.** Joni srebra se vezuju za ćelijsku membranu bakterija. Mehanizam delovanja srebra zapravo je inhibicija respiratornog enzima ćelije patogenog mikroorganizma. Srebro deluje kao katalizator, blokirajući određene enzime koje bakterije, virusi i gljivice koriste u svom metabolizmu, usled čega ovi izazivači bolesti ostaju bez kiseonika i hrane i raspadaju se. Ovaj proces odvija se tako brzo i efikasno, da nijedan mikroorganizam ne stigne da mutira, odnosno stekne otpornost.

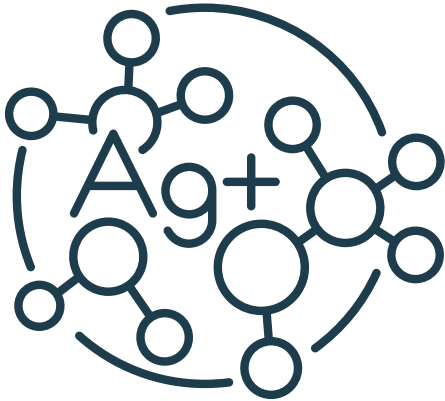
Istovremeno, ćelije tkiva ostaju netaknute, jer su procesi i mehanizmi kojima one sebi obezbeđuju kiseonik drugačiji od onog koji upotrebljavaju bakterije za isti proces.

✓ **Prodoranjem u DNK bakterija.** Pokazalo se da koloidno srebro prodire i veže se za DNK bakterija, sprečava odvijanje DNK bakterija i stoga **trajno blokira njihov proces replikacije.**

Specifičnost jona srebra ogleda se u činjenici da ono „ne bira“ koju bolest ili virus napada, a njegova efikasnost u eliminaciji patogena je dokazana na više od 650 oboljenja organizma.

Primena preparata na bazi koloidnog srebra doživljava ekspanziju, jer je srebro prepoznato kao alternativni medicinski preparat na tržištu, uz tvrdnje da se kao esencijalni mineralni suplement može koristiti u prevenciji ili lečenju mnogih teških oboljenja.

# POWER OF SILVER AG<sup>+</sup>



*The term 'colloid' was first mentioned in the 19th century when a Scottish chemist, Thomas Graham, used it to mark a solution containing extremely small particles. These are the tiniest particles, 0.001 microns in size, floating in water of 10 ppm concentration (10 silver particles per one million water particles, or 10 mg/L).*

*More recently many researchers have been demonstrating the extraordinary benefit of silver against viruses and bacteria. The research centres on the body's viral reproduction mechanism, which is susceptible to silver's effect, resulting in the cell 'suffocating' when silver is present.*

- ✓ Silver ions prevent the unwinding of bacterial DNA and permanently block their replication process
- ✓ Silver's effectiveness in eliminating pathogens has been proven on over 650 conditions
- ✓ Silver ions bind to the bacterial cell membrane
- ✓ Silver ions bind to the bacterial cell membrane and block their cellular respiration

## Where does colloidal silver's power lie?

Studies show that colloidal silver works on our body in three different ways:

✓ **Catalytic oxidation:** Oxygen reacts with silver, producing silver oxide. That process provides the energy needed for the cell to function, creating adenosine triphosphate (ATP), a source of energy that the cell may directly use.

✓ **Reaction with the bacterial cell membrane.** Silver ions bind to the bacterial cell membrane. Silver works to inhibit a pathogen cell's respiratory enzyme. Silver acts as a catalyst blocking certain enzymes, which bacteria, viruses and fungi use in their metabolism. By doing so, these infectious agents are deprived of oxygen and food and then decay. It happens so fast and so effectively that no microorganism can mutate or become resistant. At the same time, our tissue cells remain intact as their oxygen supply mechanism is totally opposite to that employed by bacteria.

✓ **Penetration into bacterial DNA.** It has been demonstrated that colloidal silver penetrates and binds to the bacterial DNA, prevents bacterial DNA unwinding and therefore permanently blocks their replication process. What sets silver ions apart is the fact that they "do not choose" which disease or virus to attack, and their effectiveness in eliminating pathogens has been proven on more than 650 conditions.

The use of colloidal silver-based products is gathering pace as silver has been recognised as an alternative medical product on the market, with claims that it may be used as an essential mineral supplement to prevent or treat many severe conditions.

Naučno istraživanje radeno in-vitro sprovedeno još davne 2003. godine na Univerzitetu Severni Teksas, pokazalo je uticaj srebra na veliki broj patogenih mikroorganizama.

### ----> Staphylococcus

Populacija od oko 10 miliona jedinki uništena je posle samo 4 minuta izloženosti koloidnom srebru koncentracije 15 ppm.

A population of app. 10 million was destroyed after only 4 minutes of exposure to colloidal silver with a 15 ppm concentration.



### ----> Salmonella

Populacija od oko 10 miliona jedinki uništena je posle 7 minuta izloženosti koloidnom srebru koncentracije 15 ppm.

A population of app. 10 million was destroyed after 7 minutes of exposure to colloidal silver with a 15 ppm concentration.



### ----> Candida

Populacija više od milijardu jedinki uništena je posle 2 minuta izloženosti koloidnom srebru koncentracije 15 ppm.

A population of more than one billion was destroyed after 2 minutes of exposure to colloidal silver with a 15 ppm concentration.



### ----> Escherichia coli

Uzročnik trovanja hranom. Inhibirana je u rastvoru od 2,5 ppm, a ubijena u rastvoru od 5 ppm.

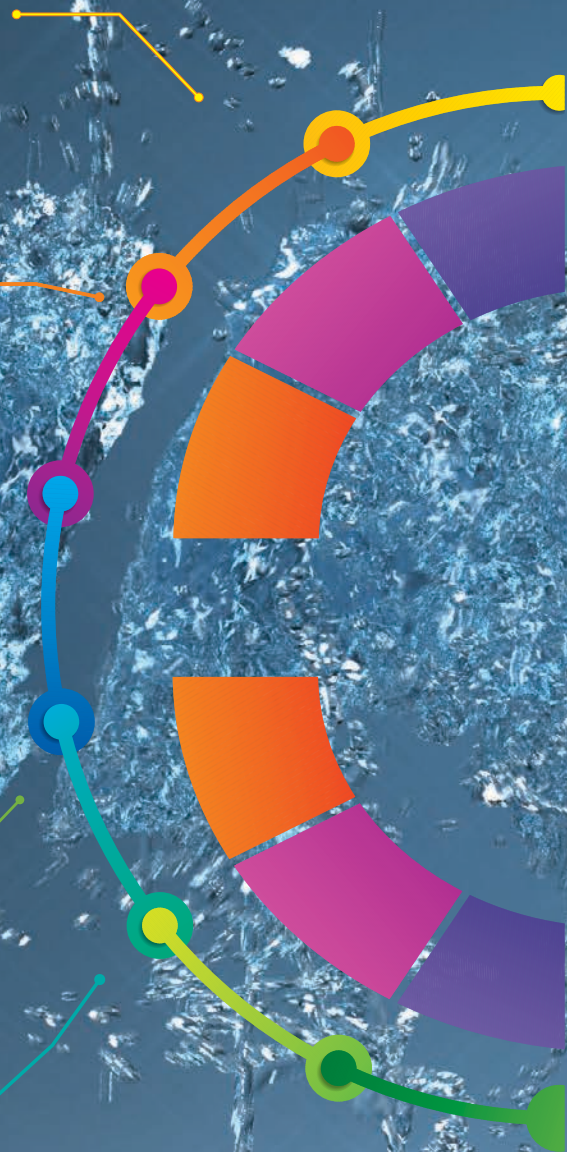
A cause of food poisoning. It was inhibited with a 2.5 ppm solution and killed with a 5 ppm solution.



### ----> Streptococcus pneumonie

Izazivač pneumonije, meningitisa, sinuzitisa, upale uha, inhibirana je koncentracijom od 5 ppm.

A cause of pneumonia, meningitis, sinusitis, ear inflammation. It was inhibited with a 5 ppm concentration.



**In-vitro scientific research conducted way back in 2003 at the University of North Texas proved the effect of silver on a large number of pathogens.**

### ----> **Streptococcus mutans**



Glavni uzročnik zubnih naslaga, upala desni i karijesa, ubijena je pri koncentraciji od 5 ppm.

The major cause of dental plaque, gum inflammation and tooth decay was killed with a 5 ppm concentration.

### ----> **Salmonella arizonae**



Uzročnik trovanja hranom. Inhibirana je u rastvoru od 2,5 ppm, a ubijena u rastvoru od 5 ppm.

A cause of food poisoning. It was inhibited with a 2.5 ppm solution and killed with a 5 ppm solution.

### ----> **Shigella Boydi**



Izazivač dizenterije. Inhibirana je rastvorom koncentracije 1,25 ppm, a ubijena rastvorom od 2,5 ppm.

A cause of dysentery. It was inhibited with a 1.25 ppm concentrated solution and killed with a 2.5 ppm solution.

### ----> **Staphylococcus aureus**



Izazivač upale pluća, infekcije oka, sepse, rana, meningitisa, inhibirana rastvorom koncentracije 2,5 ppm, a ubijena rastvorom od 5 ppm.

A cause of pneumonia, eye infection, sepsis, wounds, meningitis. Inhibited with a 2.5 ppm concentrated solution and killed with a 5 ppm solution.

### ----> **Pseudomonas aeruginosa**



Infekcija opekotina, rana, pneumonija, meningitisa, infekcija urinarnog trakta, inhibirana u koncentraciji od 2,5, a ubijena koncentracijom od 5 ppm.

A cause of burn and wound infections, pneumonia, meningitis, urinary tract infections. It was inhibited with a 2.5 ppm concentration and killed with a 5 ppm concentration.

# TEHNOLOGIJA KOLOIDNOG SREBRA

*Originalni tehnološki postupak izrade, mehanizam fizičko-hemijskih reakcija koje se dešavaju u postupku dobijanja, kao i mehanizam antiseptičkog dejstva, zasniva se na delovanju koloidnog srebra i aktivnostima elektrohemijски aktivirane vode. Najpogodniji oblik srebra za dezinfekcionu i antiseptičku primenu je upravo koloidno srebro, suspenzija veoma sitnih čestica srebra u vodi u rastvoru koji sadrži jone srebra. Atomički mikro klasteri srebra u koloidnom rastvoru imaju izuzetno male dimenzije, ali zbirno imaju veliku specifičnu površinu po jedinici zapremine koloidnog rastvora, što dramatično povećava reaktivnost srebra.*

Atomički klasteri srebra su veoma malih dimenzija, usled čega je i efikasnost delovanja srebra mnogo jača

Antibakterijska dejstva srebra potiču od srebrnog jona

Joni srebra su efikasna alternativa antibioticima

Efikasnost srebra se zasniva na sposobnosti biološki aktivnih srebrnih jona (Ag+) da ošteti ključne sisteme enzima u ćelijskim membranama patogena

## Oligodinamički efekat srebrnih jona

Elektrohemijski generisano, koloidno srebro sadrži 90% srebra u jonskom obliku i oko 10% srebra u atomskom obliku u obliku grozdova (klastera). Najefikasnije baktericidno dejstvo srebro ispoljava u jonskom obliku.

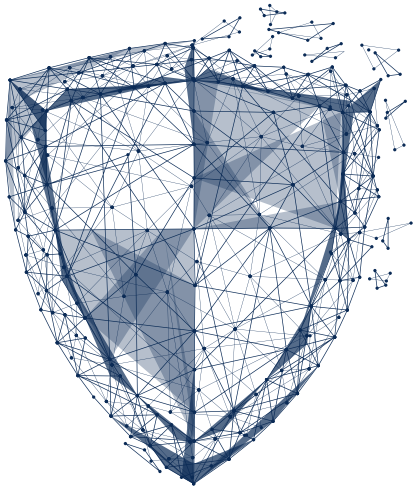
Koloidno srebro je rastvor različitih koncentracija jonskih jedinjenja srebra, srebrnih koloida ili jedinjenja srebra vezanih za proteine u vodi. Tehnologija izrade brojnih proizvoda koji sadrže srebro je u ekspanziji, zbog porasta broja na antibiotik otpornih bakterija, uglavnom zbog širenja meticilin - rezistentnih *Staphylococcus aureus* (MRSA).

Srebro i srebrna jedinjenja imaju oligodinamički efekat i toksična su za bakterije, alge i gljivice u in vitro uslovima.

Antibakterijska dejstva srebra potiču od srebrnog jona. Efikasnost jedinjenja srebra kao antiseptika zasniva se na sposobnosti biološki aktivnih srebrnih jona (Ag+) da ireverzibilno ošteti ključne sisteme enzima u ćelijskim membranama patogena.

Svetska zdravstvena organizacija uključuje srebro u koloidnom stanju proizvedeno elektrolitički u filterima za vodu, kao metod kojim se obezbeđuje voda za piće u zemljama u razvoju. Navedeni rezultati primene srebra u cilju zadovoljenja zdravstvenih potreba, ukazuju kako na mogućnosti, tako i na opravdanost primene i perspektive razvoja ovih tehnologija u pogledu unapređenja zdravlja i kvaliteta življenja.

# COLLOIDAL SILVER TECHNOLOGY



*The original technological production process, the mechanism of physical-chemical reactions taking place in the production process, as well as the mechanism of antiseptic effect, is based on the colloidal silver effects and activities of electrochemically-activated water. The most suitable form of silver for disinfection and antiseptic application is no other than colloidal silver, the suspension of minute silver particles in water solution containing silver ions. The atom micro clusters of silver in a colloidal solution are extremely small in size, but aggregately they have a very large specific surface area per unit volume of the colloidal solution, dramatically increasing silver's reactivity.*

- ✓ Atom clusters of silver are extremely small in size, and that is why silver's efficiency is much higher.
  - ✓ Silver's antibacterial properties come from silver ions
  - ✓ Silver ions are an efficient alternative to antibiotics
- ✓ Silver's efficiency is based on the ability of the biologically active silver ions ( $\text{Ag}^+$ ) to damage the key enzyme systems in a pathogen's cell membranes

## Oligodynamic effect of silver ions

Electrochemically generated, colloidal silver contains 90% of silver in ionic form and some 10% in atomic form as clusters. The most efficient bactericidal effect of silver is manifested in ionic form.

Colloidal silver is a solution of varying concentrations of ionic silver compounds, silver colloids or silver compounds bound to proteins in water. The production technology used in numerous products containing silver is gathering pace, owing to the ever-growing number of antibiotic-resistant bacteria, mostly as a result of the spread of methicillin-resistant *Staphylococcus aureus* (MRSA).

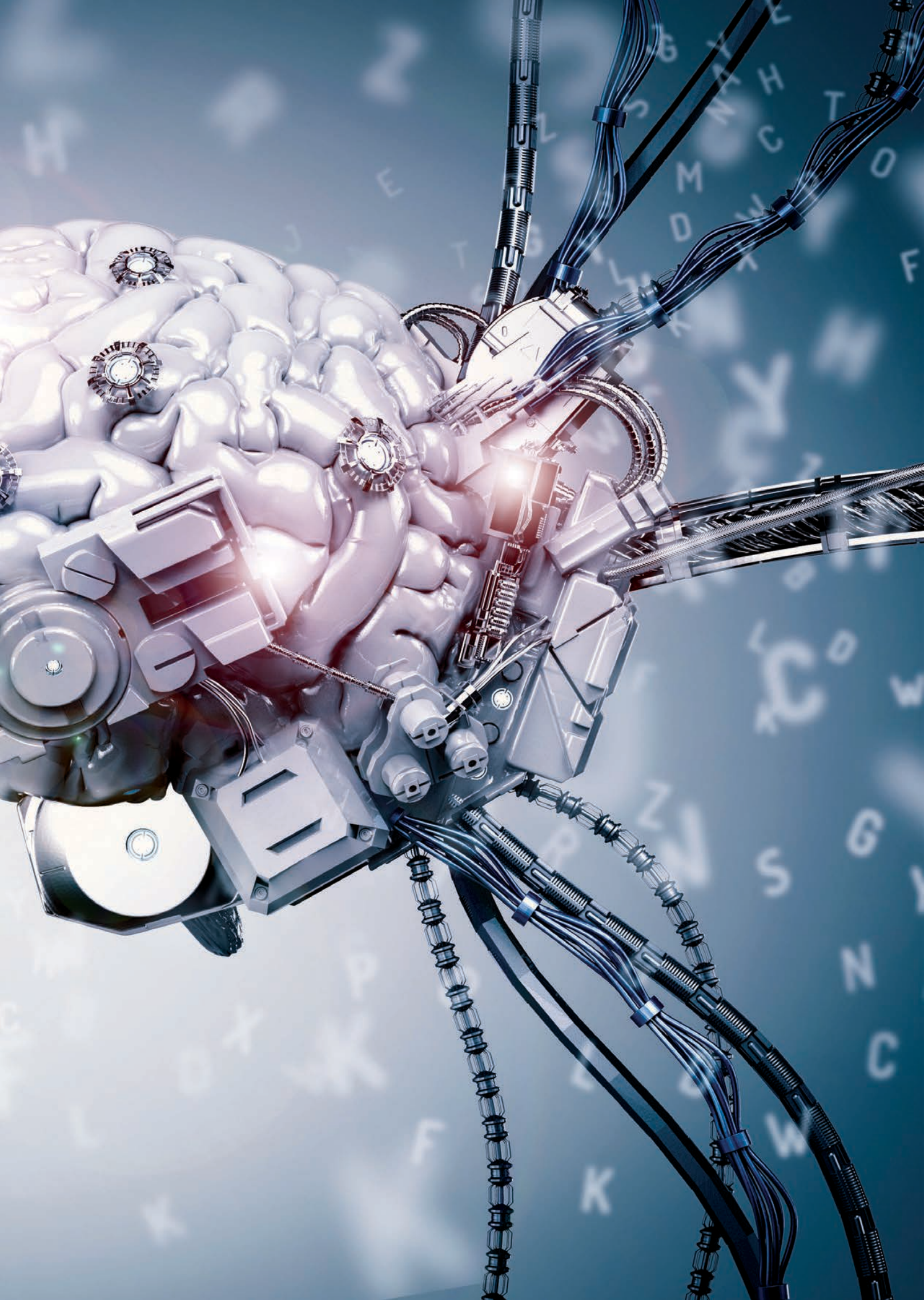
Silver and silver compounds have an oligodynamic effect and are toxic to bacteria, algae and fungi *in vitro*.

Silver's antibacterial properties come from silver ions. The efficiency of silver compounds as antiseptics is based on the ability of biologically active silver ions ( $\text{Ag}^+$ ) to destroy the key enzyme systems in a pathogen's cell membranes.

The World Health Organization includes colloidal silver produced electrolytically in water filters as a means of providing potable water in developing countries. The results of the application of silver (nanosilver technologies) aimed at meeting health needs point not only to the possibilities but also to the justification for using it and the prospects for developing these technologies with a view to improving health and quality of life.







# ARHITEKTURE SISTEMA VEŠTAČKE INTELIGENCIJE

*Robot za aerosolnu dezinfekciju prostora je proizvod eksponencijalno napredne veštačke inteligencije, koja kombinuje numeričke podatke i procesne algoritme, u cilju razvitka sistema praćenja složenih problema, nalik onima u ljudskoj logici i razumu.*

*Analizirajući velike količine podataka, robot za aerosolnu dezinfekciju završava složen zadatak umesto čoveka, oslanjajući se na logiku, verovatnoću, kontinuiranu matematiku, percepciju i akciju, te na taj način štedi ljudske resurse.*

Reč robot potiče od češke reči, a u prevodu znači „težak rad“

Inteligenciju koju robot poseduje čini sistem programa, koji određuje njegovu sposobnost da prepozna određene situacije

Roboti, kao proizvod napredne veštačke inteligencije štede ljudske resurse i ubrzavaju rad

Algoritmi implementirani u robote reaguju na ljude koji ih koriste i transformišu se samostalno

## Algoritmi programa veštačke inteligencije

Jedan od osnovnih ciljeva veštačke inteligencije je da odmeni ljudski mozak u svim funkcijama koje mogu da se obavljaju uz pomoć mašina, pri čemu se ove funkcije izvršavaju neuporedivo brže i tačnije nego kada bi to radio čovek.

Robot za aerosolnu dezinfekciju prostora raspršivanjem koloidnog srebra analizira ogromne količine podataka, kao i reakcije i ponašanje korisnika, a njegovi algoritmi reaguju na ljude koji ih koriste i transformišu se samostalno.

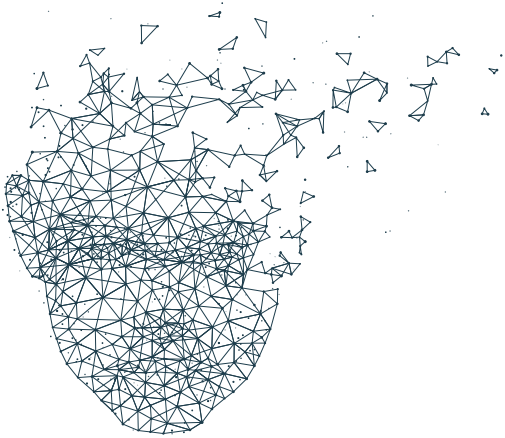
Veštačka inteligencija ima veliki uticaj na proces brzog razvoja dijagnostičkih i medicinskih aplikacija, te će, zahvaljujući tom razvoju, u narednim godinama sve više ulaziti u sva područja našeg života.

S obzirom na to da proizvodi bazirani na veštačkoj inteligenciji olakšavaju i unapređuju život ljudi u različitim oblastima, njihov osnovni cilj je automatizacija procesa koji su fizički zahtevni i konstantno se ponavljaju.

U narednom tekstu govorićemo o „Robotu za aerosolnu dezinfekciju prostora“, najnovijem tehnološkom dostignuću, koji menja čoveka, štedi ljudske resurse, a svojim vrhunskim performansama, raspršivanjem koloidnog srebra, vrši neutralizaciju svih patogena u prostoru u kome se vrši dezinfekcija.

U godinama koje dolaze ovakvi roboti pod kontrolom veštačke inteligencije biće neprocenjivi.

# ARTIFICIAL INTELLIGENCE SYSTEM ARCHITECTURE



*The indoor aerosol disinfection robot is a product of an exponentially advanced artificial intelligence, which combines numeric data and process algorithms, aimed at developing knowledge based-systems for solving complex problems, like those specific to human logic or reason.*

*By analysing large volumes of data, the disinfection robot completes a complex task instead of people, relying on logic, probability, continuous mathematics, perception and action, saving human resources in the process.*

- ✓ The word 'robot' comes from a Czech word for 'hard labour'
- ✓ The robot derives its intelligence from the software system that determines its capability to recognise certain situations
  - ✓ Robots, as advanced AI products, save on human resources and speed up work
  - ✓ The algorithms used in robots react to people using them and transform autonomously

## Artificial intelligence software algorithms

One of AI's core objectives is to replace the human brain in all functions that may be machine-operated, where these functions are performed incomparably more rapidly and precisely than by a human.

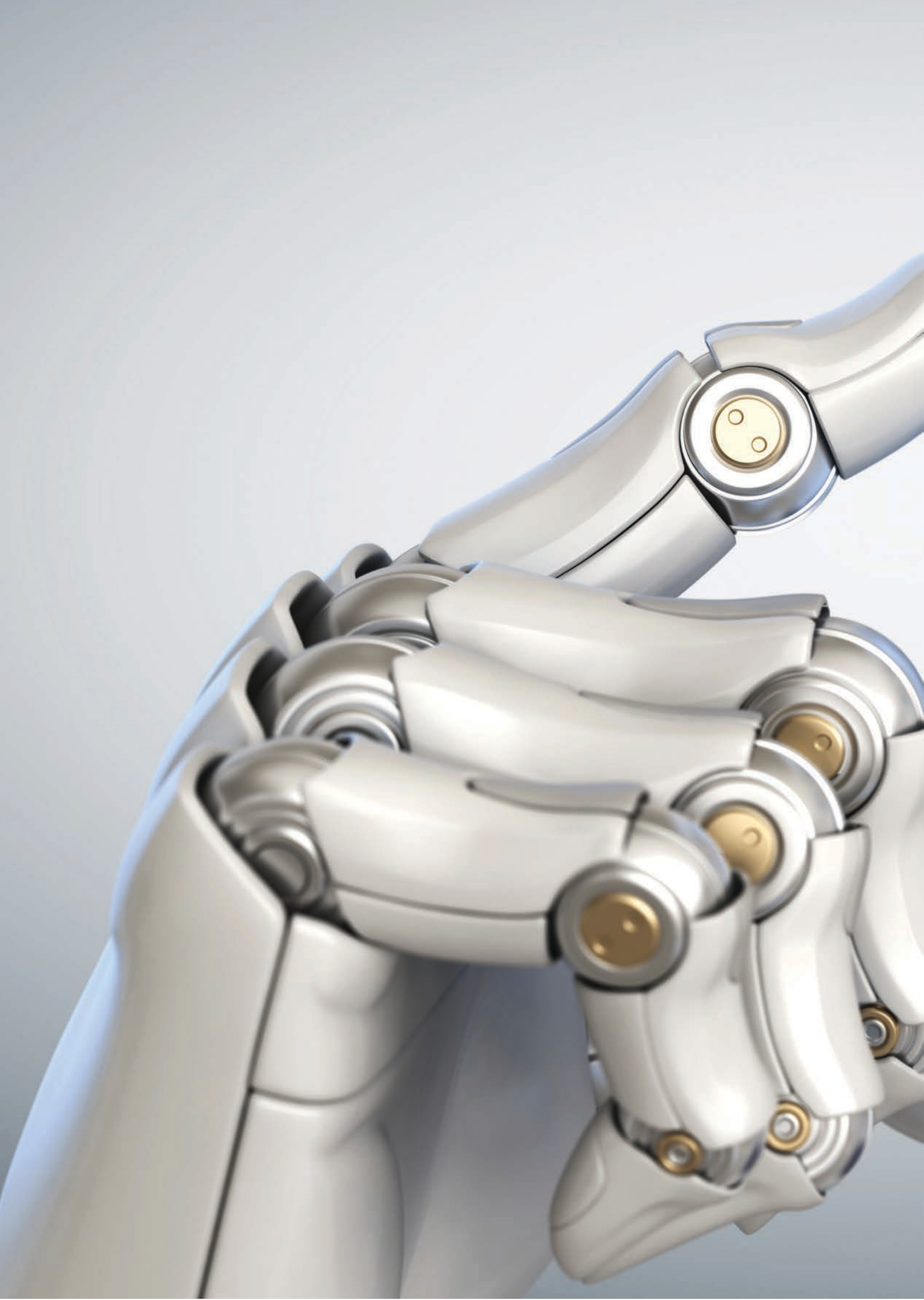
The indoor aerosol disinfection robot analyses huge amounts of data, as well as user reactions and behaviour, while its algorithms react to people using them and transform autonomously.

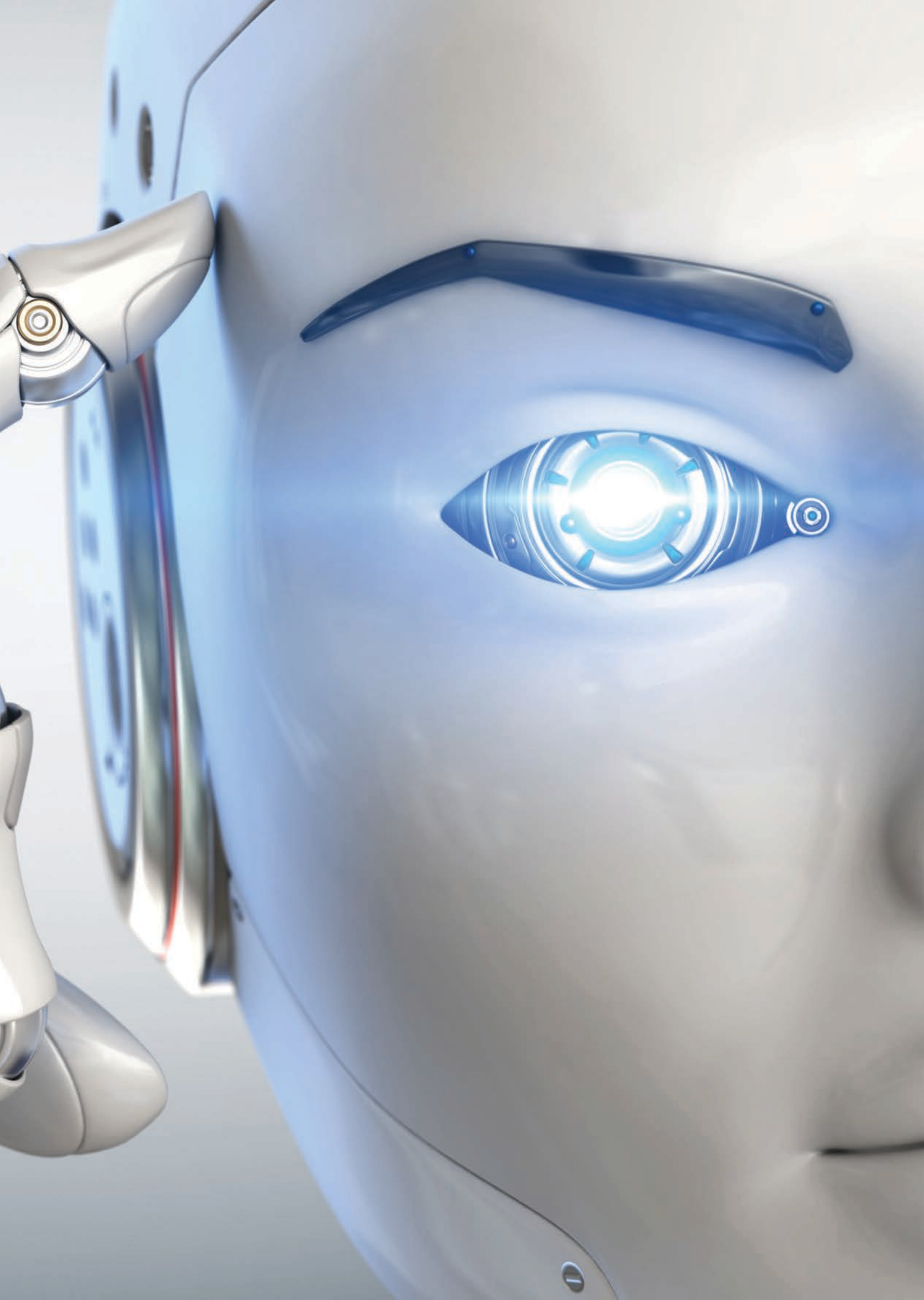
AI is a major driver of the rapid development of diagnostic and medical applications, and owing to that development, in years to come, it is set to become an ubiquitous part of our lives.

Since AI-based products make life easier for people and improve it in various spheres, their main objective is automation of the processes that are physically demanding and repetitive.

The following text features the 'Indoor Disinfection Robot', the latest technological advancement that replaces people, saves on human resources, and owing to its high-end performance, sprays colloidal silver to neutralise all pathogens in the area being disinfected.

In years to come AI-driven robots will be invaluable.



















# ROBOT ZA AEROSOLNU DEZINFEKCIJU PROSTORA

*Robot za aerosolnu dezinfekciju raspršuje sitne čestice koloidnog srebra (manje od 10 µm), pri čemu neutralizuje 99,99% patogena u sredini u kojoj se vrši dezinfekcija.*

*Kontrola ovog uređaja odvija se putem mobilne aplikacije, a rad preko klada (cloud). Robot poseduje osvetljenje i glasovnu interakciju za bolje korisničko iskustvo, a interfejs je prilagođen svakom korisniku. Robotička aerosolna dezinfekcija ima režim rada velike efikasnosti u kome se razdvajaju čovek i mašina i koji u velikoj meri smanjuje rizik unakrsne kontaminacije osoblja u zoni u kojoj se vrši dezinfekcija.*

Robot radi samostalno, a pokreće se putem mobilne aplikacije

Emituje koloidno srebro u okolni prostor na definisane zaražene tačke u bilo kom prostoru u kojem se vrši dezinfekcija

Rezultati testiranja robota pokazali su da izloženost koloidnom srebru u trajanju od 10 minuta ubija 99,99% patogena

Ubrzava dezinfekciju svakog kontaminiranog prostora za 12 puta

## Inteligentna neutralizacija patogena

Robot za aerosolnu dezinfekciju raspršivanjem je jedinstveno rešenje za dezinfekciju visokorizične sredine i supresiju patogena. Odlikuje ga samostalan rad i jednostavna upotreba. Robot kapaciteta od 13 litara ostvaruje stopu sterilizacije od 99,99% u svakoj sredini u kojoj se vrši dezinfekcija, uz mogućnost automatskog punjenja koloidnim srebrom.

Robot je kreiran za inteligentno izbegavanje prepreka i funkcioniše putem aplikacije koja se instalira na mobilni telefon. Ovo je pouzdan, efikasan i bezbedan uređaj koji pruža najveću moguću zaštitu lične bezbednosti zaposlenih koji vrše dezinfekciju u ustanovama poput bolnica, škola, ili drugih javnih mesta u kojima je neophodno vršiti dezinfekciju prostora na dnevnom nivou. Pokrivenost raspršivanja česticama koloidnog srebra (manje od 10µm), u opsegu od 360° bez mrtvih uglova, je jedna od najjačih performansi ovog robota, imajući u vidu da ovako širok spektar sterilizacije uništava preko 99.99% virusa i patogena koji se nalaze u vazduhu i na kontaminiranim površinama.

Pored potpune pokrivenosti celokupnog prostora u kome se vrši dezinfekcija i konekcije na internet, robota odlikuje samostalan rad i u liftovima, kod obrtnih rampi i drugih mehanizama za kontrolu pristupa, uz pametan rad na površinama u svim scenarijima, bez ometanja. Mehanizam rada oslanja se na ultrasonične glave za raspršivanje sa kapacitetom raspršivanja od 4000 ml/h, koje i omogućavaju efikasniju dezinfekciju prostora.

Robot podržava dva režima, „new retail“ i „expres“, a režim rada se može prilagođavati različitim scenarijima. Dezinfekcija se može vršiti u svakoj prostoriji složenog okruženja, lokaciji i vremenskom trajanju. Preporuka je da se robot za dezinfekciju koristi svakog dana u trajanju od 30 minuta, raspršivanjem dezinficijensa (koloidnog srebra), jačine 13 ppm-a, 13mg/L, kako bi se postigao visok nivo efekta dezinfekcije.

# INDOOR AEROSOL DISINFECTION ROBOT



*The aerosol disinfection robot sprays small particles of colloidal silver (less than 10  $\mu\text{m}$ ), neutralising 99.99% of pathogens in the area being disinfected.*

*The device is controlled via a mobile application, and operated via the cloud. The robot is equipped with lighting and voice interaction for an improved user experience and user-friendly interface. Robotic disinfection has a highly efficient human-machine separation mode that greatly reduces the risk of cross-contamination of staff in the disinfection area.*

- ✓ The robot is autonomous, and activated via a mobile application
- ✓ It sprays colloidal silver into the surrounding area to the defined infected points in any space being disinfected
- ✓ Robot test results have shown that a 10-minute exposure to colloidal silver kills 99.99% of pathogens
- ✓ It speeds up disinfection of any contaminated area 12 times

## Intelligent pathogen neutralisation

Spray aerosol Disinfection Robot is a one-stop solution for disinfecting high-risk environment and pathogen suppression. It operates on its own and is easy-to-use. The robot with a 13 L capacity has a sterilisation rate of 99.99% in any area being disinfected, and comes with the option of automatic colloidal silver injection.

The robot features intelligent obstacle avoidance and is operated via a mobile phone application. This is a reliable, efficient and safe device providing the greatest possible personal protection for staff disinfecting institutions such as hospitals, schools or other public places requiring daily disinfection. Spray coverage with colloidal silver particles (less than 10 $\mu\text{m}$ ) 360° no blind spots, is one of the major features of this robot, considering that such a broad spectrum sterilisation destroys more than 99.99% of airborne viruses and pathogens or those present on contaminated surfaces.

In addition to full coverage of the entire area being disinfected and the internet connection, the robot is capable of autonomous operation in lifts, turnstiles and other types of access control, achieving smart delivery across floors in all scenarios, without being obstructed. The operational mechanism relies on ultrasonic atomizing heads with atomization volume of 4000 ml/h making disinfection more efficient.

It supports two modes: 'new retail' and 'express', and the working mode can be switched in different scenarios. Disinfection can be carried out in any partition (room) complex environment, point location and for any duration.

It is recommended that the disinfection robot be used daily for 30 minutes, spraying 13 ppm colloidal silver, 13 mg/L, as a disinfectant, to ensure a high level of disinfection.



**Radni dan**  
**Working day**

**8** ČASOVA  
HOURS

**Ljudi su umorni**  
**People are tired**



**Manuelna dezinfekcija**  
**troši vreme**

**Manual disinfection**  
**wastes time**



**Visoko koncentrovana**  
**sredstva za dezinfekciju**  
**su štetna**

**Highly concentrated**  
**disinfectants are harmful**





**Dezinfekcija robotom  
menja radnu snagu  
i štedi vreme**

**Robotic disinfection  
replaces manpower  
and saves time**



**Visoka efikasnost**

**12** ČASOVA  
HOURS

**High efficiency**



# INTELIGENTNO BESKONTAKTNO ISKUSTVO

POKRIVENOST DEZINFEKCIJE

**4000 m<sup>2</sup>/h**

DISINFECTION COVERAGE

STOPA ELIMINACIJE  
PATOGENA

**99,99%**

PATHOGEN  
ELIMINATION RATE

INOVATIVNO REŠENJE  
ZA DNEVNU DEZINFEKCIJU  
VISOKORIZIČNE SREDINE  
MENJA SVA ŠTETNA  
SREDSTVA  
ZA DEZINFEKCIJU  
KOJA IZAZIVAJU OPEKOTINE  
ILI RANE NA KOŽI



# SMART NON-CONTACT EXPERIENCE

**KORISTI KOLOIDNO  
SREBRO ZA RASPRŠIVANJE  
I DEZINFEKCIJU**

**USES COLLOIDAL  
SILVER FOR SPRAYING  
AND DISINFECTION**

**SMANJUJE RIZIK  
UNAKRSNE KONTAMINACIJE  
OSOBLJA**

**REDUCES THE RISK OF  
CROSS-CONTAMINATION  
OF STAFF**

**INNOVATIVE SOLUTION  
FOR DAILY DISINFECTION  
OF HIGH-RISK ENVIRONMENT  
REPLACES ALL HARMFUL  
DISINFECTANTS  
THAT CAUSE  
SKIN BURNS OR SORES**

# PERFORMANSE ROBOTA

*Inteligentno izbegavanje prepreka, lako upravljanje, automatska navigacija, napredna izrada mapa, automatska dopuna baterije pred istek, višestruka tehnička podrška, unapređen režim punjenja, veliki kapacitet od 13 l, stopa sterilizacije od 99,99%, samo su neke od performansi robota za dezinfekciju prostora.*

Pametno  
beskontaktno  
iskustvo sa prostornim  
rezonovanjem.  
Inteligentna navigacija,  
lokomocija i manipulacija

Za razliku od manuelne  
dezinfekcije sa dezinfekcionim  
sredstvima visoke koncentracije  
ne šteti ljudskom organizmu,  
a garantuje  
visok efekat dezinfekcije

Inteligentna robotička  
tehnologija kretanja  
u enterijeru  
bez ljudskog faktora

Smanjuje rizik  
unakrsne  
kontaminacije osoblja







## Adaptibilan interfejs za lako korišćenje

Robota odlikuje visoka beskontaktna fleksibilnost i laka primena momentalne aerosolne dezinfekcije. Robot komunicira sa liftovima i telefonima (sam automatski koristi lift u hotelima ili bolnicama), a koristi i glasovne poruke. Robot na digitalno upravljanje radi bez nadzora. Aktiviranje aplikacije, dnevnik rada i automatsko punjenje vrši se na veoma praktičan način. Robot se aktivira u tri koraka: plan, određivanje putanje i start dezinfekcije. Koristi autonomno pozicioniranje, navigaciju i mehatroniku u enterijeru.

Algoritmi pozicioniranja i navigacije odnose se na mapiranje (integrisani pristup), slam (istovremena lokalizacija i mapiranje), lokalizacija, navigacija (Scan to Map, Scan to scan), samorazvojni senzori, standardizacija komponenata. Princip rada je prečišćavanje vazduha i dezinfekcija raspršivanjem koloidnog srebra. Pored dva robota na digitalno upravljanje, Colloid u ponudi ima i statičkog robota za dezinfekciju i raspršivanje koloidnog srebra, kao i uređaj za raspršivanje koloidnog srebra koji se montira na zid.

Primena robota za aerosolno raspršivanje koloidnog srebra postiže veću efikasnost dezinfekcije i ima manji uticaj na radne procese osoblja za čišćenje u poređenju sa postojećim rešenjima, a dezinfekciju prostorija ubrzava 12 puta. Preporuka je da se robot za aerosolnu dezinfekciju koristi svakog dana u trajanju od 30 minuta, raspršivanjem dezinficijensa (koloidnog srebra), jačine 13 ppm-a, 13mg/L, kako bi se postigao visok nivo efekta dezinfekcije.

### Parametri robota:

-  Vreme punjenja: 2h (0 ~ 80%).
-  Trajanje: 2-4h.
-  Količina raspršivanja: 4 l/h.
-  Bezbednost i zaštita: Lidar i radni senzori, lampica kao podsetnik, inteligentna detekcija pritiska.
-  Režim rada: aplikacija, kontrolna tabla.
-  Režim komunikacije: 4G, WiFi.

# ROBOT FEATURES

*Intelligent obstacle avoidance, easy control, automatic navigation, advance map building, low battery automatic recharge, multiple technical support, optimised charging mode, a large 13 l capacity, sterilisation rate of 99.99% are some of the features of the indoor aerosol disinfection robot.*

- ✓ Smart non-contact experience with spatial reasoning. Intelligent navigation, locomotion and manipulation
- ✓ Unlike manual disinfection with highly-concentrated disinfectants, it does not harm the human body and guarantees a high disinfection effect.
  - ✓ Intelligent robotic indoor unmanned driving technology
  - ✓ Reduces the risk of cross-contamination of staff

## Easy-to-use adaptable interface

The robot boasts high non-contact flexibility and easy instant aerosol disinfection. The robot communicates with lifts and phones (takes the elevator automatically in hotels and hospitals) and uses voice commands. The digitally operated robot operates unattended. Application deployment, work log and automatic charging are practical. The robot is activated in three steps: lay out, set a path and start disinfection. It uses indoor autonomous positioning and navigation and mechatronics.

Positioning and navigation algorithms cover mapping (Integrated approach), SLAM, localisation, navigation (Scan to Map, Scan to scan), self-developed sensors, component standardisation. It operates by purifying the air and disinfecting by spraying colloidal silver. In addition to two digitaly-operated robots, Koloid offers a static disinfection robot that sprays colloidal silver, as well as a wall-mounted colloidal silver spraying device.

Using the colloidal silver spray robot results in greater aerosol disinfection efficiency and cuts down on the amount of work that cleaning staff need to do compared to existing solutions, and is 12 times faster at disinfecting premises.

It is recommended that the disinfection robot be used daily for 30 minutes, spraying 13 ppm colloidal silver, 13 mg/L, as a disinfectant, to ensure a high level of disinfection.

### Robot parameters:

- 🔒 Charging time: 2h (0 ~ 80%)
- 🔒 Battery life: 2-4 h
- 🔒 Spray quantity: 4 l/h
- 🔒 Safety & protection: Lidar and various sensors, light reminder, intelligent pressure sensing.
- 🔒 Operation mode: App, panel control
- 🔒 Communication mode: 4G, WiFi.











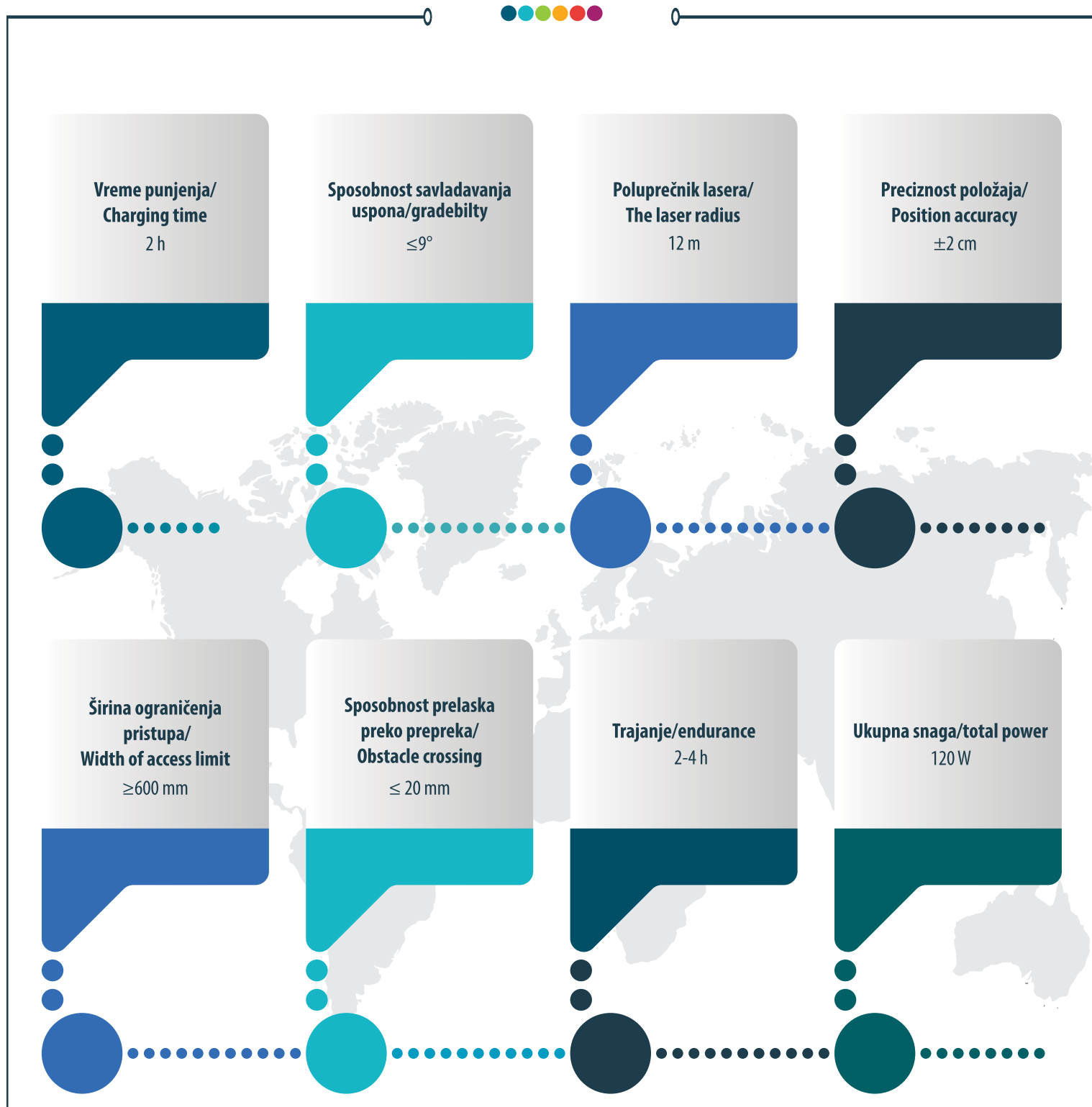




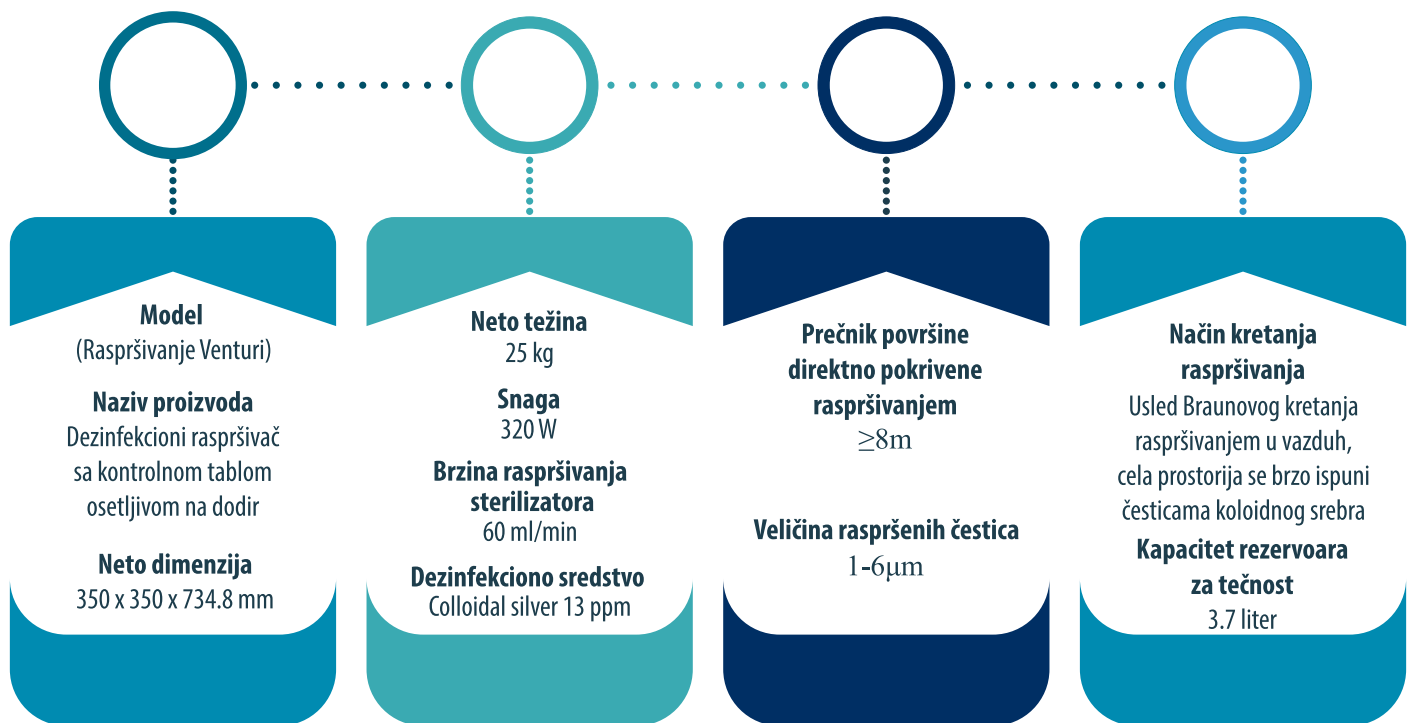
# SPECIFIKACIJA PROIZVODA



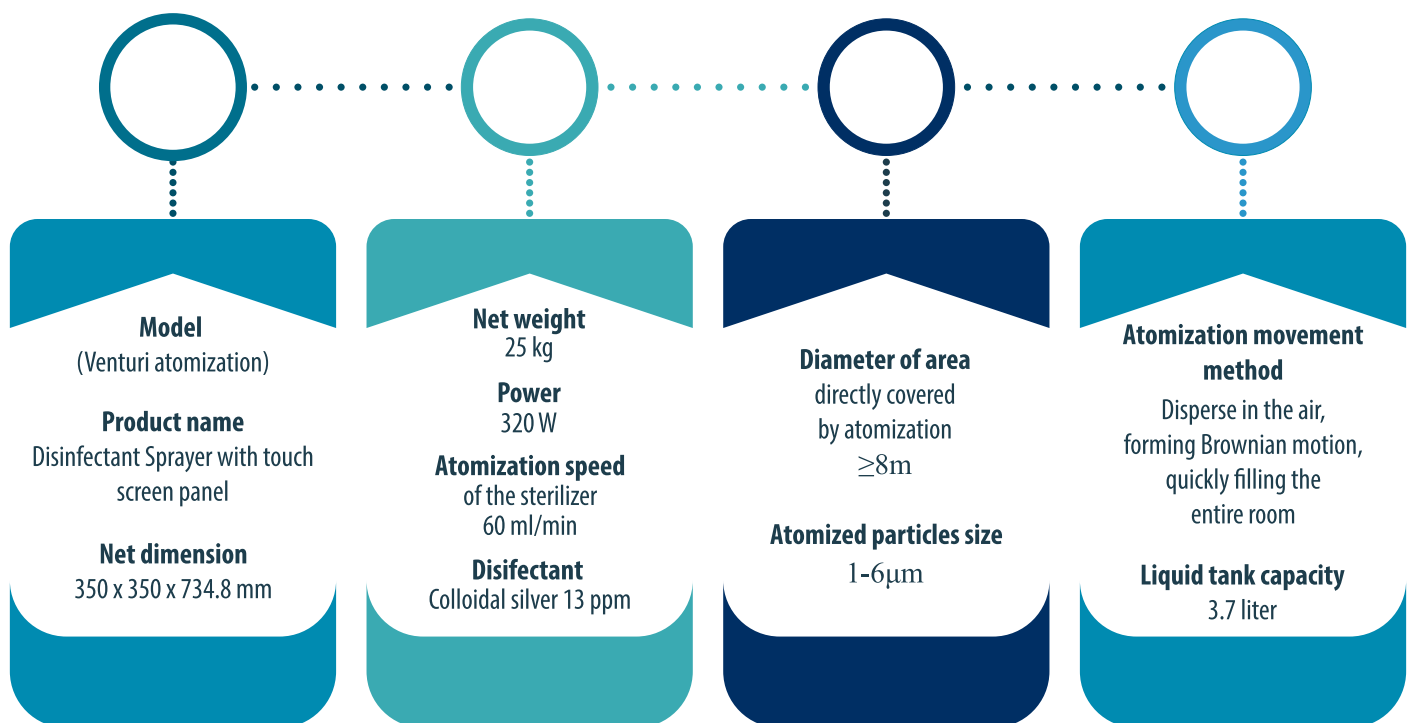
# PRODUCT SPECIFICATION



# SPECIFIKACIJA PROIZVODA

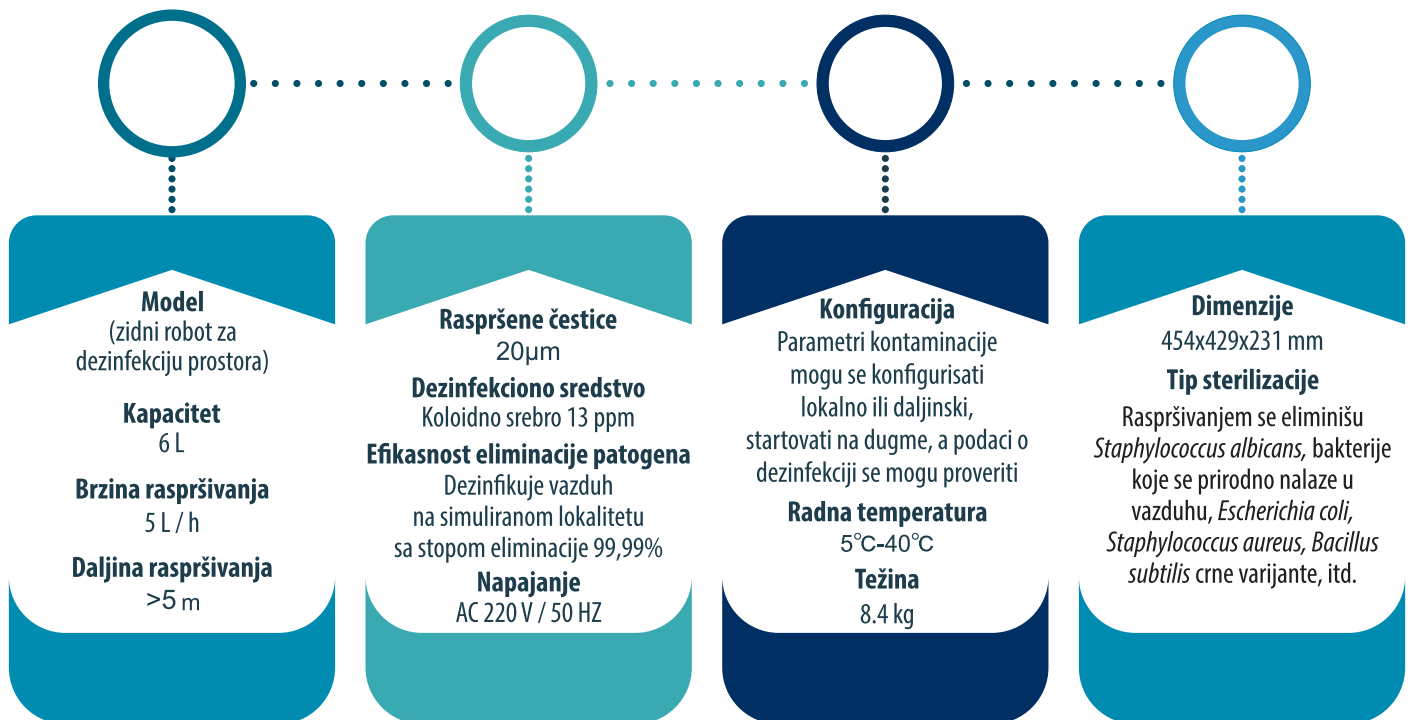


# PRODUCT SPECIFICATION



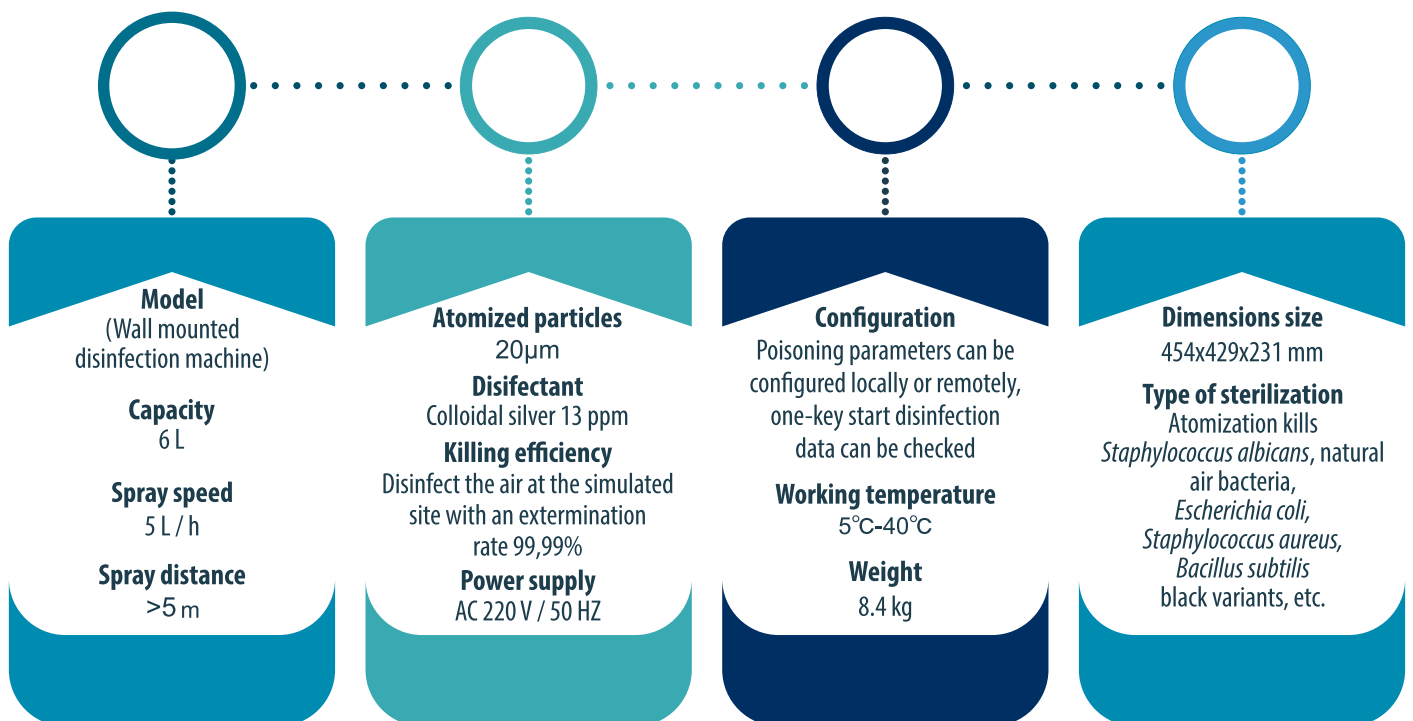
# SPECIFIKACIJA PROIZVODA

## Robot za dezinfekciju (montiran na zid)

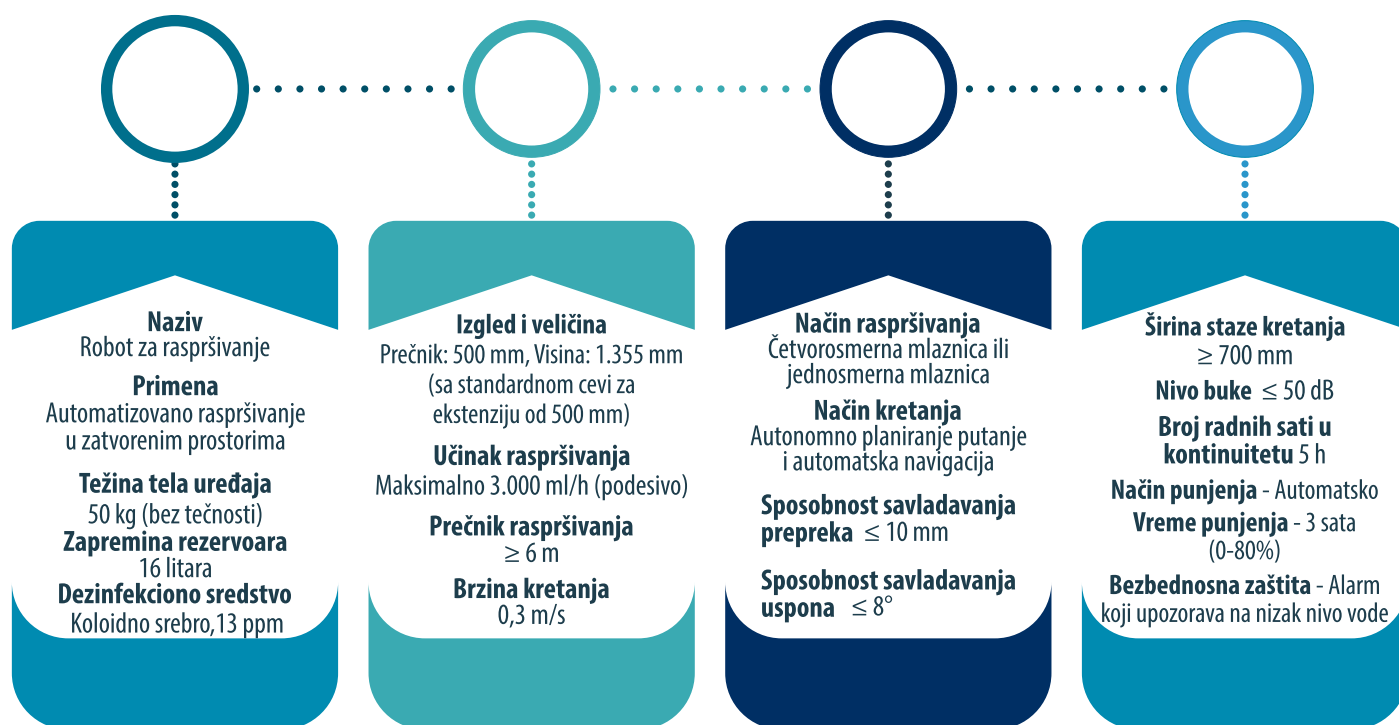


# PRODUCT SPECIFICATION

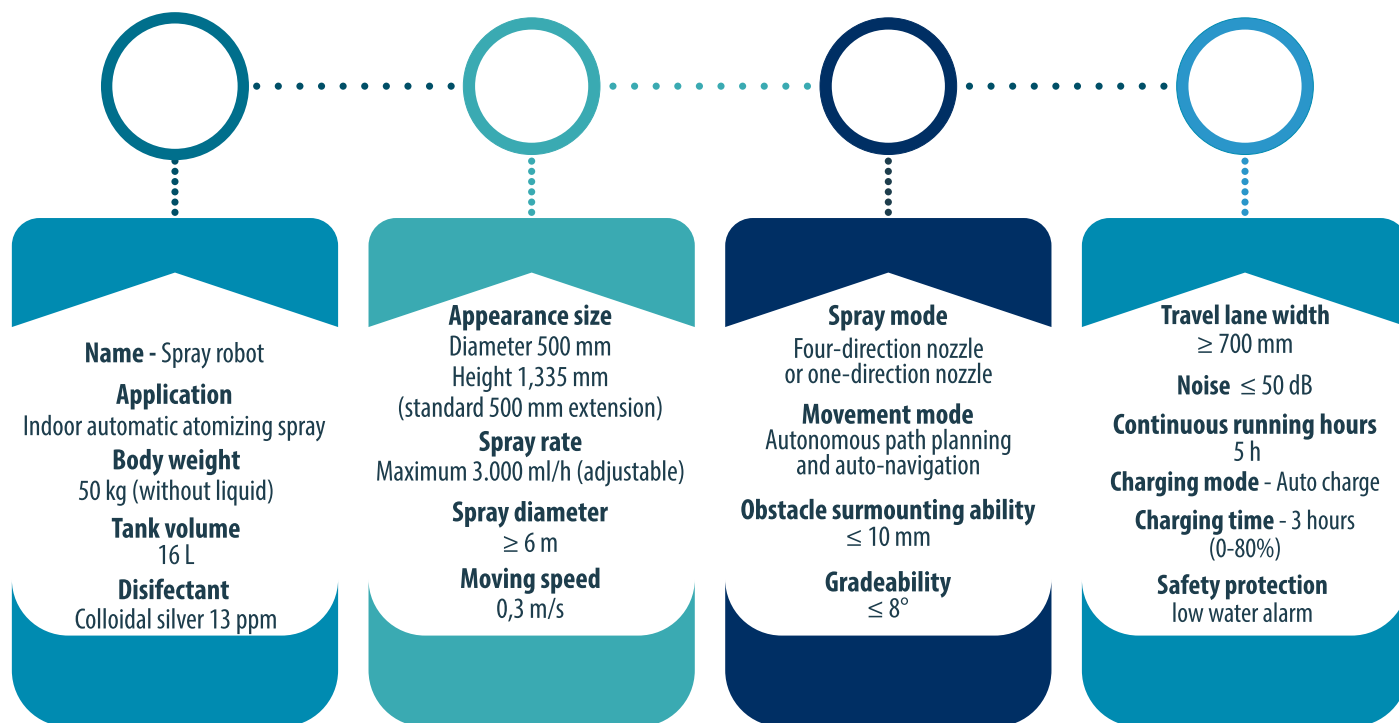
## Wall mounted disinfection machine



# SPECIFIKACIJA PROIZVODA



# PRODUCT SPECIFICATION





# MOGUĆNOSTI PRIMENE ROBOTA ZA AEROSOLNU DEZINFEKCIJU

*Sa sposobnošću da radi 365 dana u godini, uz redovno održavanje, robot za dezinfekciju prostora ima izuzetno veliku pouzdanost i efikasnost, a njegova najveća prednost ogleda se u smanjenju uticaja ljudskih grešaka i prekomerne upotrebe štetnih sredstava za dezinfekciju.*

*Svoj pun potencijal dezinfekcije čistim koloidnim srebrom, robot ostvaruje na svim onim mestima u kojima je kontaminiranost osoblja potrebno svesti na minimum. Dizajniran je za dezinfekciju frekventnih područja u rasponu od kancelarija, vrtića, učionica u školama, čekaonica, aerodroma, stacionarnih jedinica i bolničkih soba.*

Robot je kreiran za dezinfekciju visoko frekventnih područja u kojima je prisutan veliki broj patogena

Idealno rešenje za potrebe konstantne dezinfekcije

Jednostavna upotreba putem mobilne aplikacije

Raspršivanje koloidnim srebrom u trajanju od 10 minuta ubija 99,99% patogena

## Sterilno okruženje na visoko frekventnim mestima

Sve je više potrebe za novim rešenjima koja pomažu u prevenciji i sprečavanju širenja virusa, naročito kada je reč o objektima u kojima je prisutna velika fluktuacija ljudi. Kao odgovor na potrebu distanciranja i pitanja radne snage, roboti su idealno rešenje za potrebe gotovo konstantne dezinfekcije, a ovo se posebno odnosi na bolničke ustanove, javne objekte, poslovne prostore, vrtiće, škole, univerzitete, tržne centre, javni prevoz, stacionarne jedinice, aerodrome...

Robot za aerosolnu dezinfekciju prostora koloidnim srebrom ima za cilj da osigura sterilno okruženje na svim visoko frekventnim mestima u kojima je prisutan visok nivo kontaminacije, bez izlaganja osoblja nepotrebnim rizicima. Osoblje u sredini u koje se vrši dezinfekcija raspršivanjem, više ne mora da se suočava sa skladištenjem toksičnih, opasnih i korozivnih hemikalija niti da rukuje njima.

Robotom koji raspršuje koloidno srebro u kontaminirani prostor rukuje se pomoću mobilne aplikacije. Rezultati testiranja su pokazali da izloženost emitovanja (raspršivanja) koloidnog srebra u trajanju od 10 minuta ubija do 99,9 % bakterija. Robot postiže veću efikasnost dezinfekcije i ima manji uticaj na radne procese osoblja za čišćenje u poređenju sa postojećim rešenjima, a dezinfekciju prostorija ubrzava za 12 puta.

Robotičko raspršivanje koloidnim srebrom pruža viši stepen efektivnosti i u borbi protiv drugih hospitalnih infekcija, redukciji patogena u stacionarnim ustanovama, bolesničkim sobama, operacionim salama i ostalim bolničkim prostorima. Aerosolna dezinfekcija koloidnim srebrom dokazano delotvorno uništava mikroorganizme koji se prenose vodom, vazduhom i putem površina i pruža dugotrajnu zaštitu u kontaminiranom okruženju.



# AEROSOL DISINFECTION ROBOT POSSIBILITIES

*Capable of operating 365 days, with regular maintenance, the indoor disinfection robot is highly reliable and efficient, and its major advantage is in reducing human error and the overuse of harmful disinfectants.*

*The robot's full disinfection potential with colloidal silver is visible in all those places where staff contamination needs to be minimised. It is designed to disinfect busy areas, from offices, kindergartens, school classrooms, waiting rooms, airports to hospital rooms.*

- ✓ The robot is designed to disinfect busy areas that have a large number of pathogens
  - ✓ An ideal solution for continual disinfection
  - ✓ Easy control via a mobile application
- ✓ Spraying colloidal silver for 10 minutes kills 99.99% of pathogens

## Sterile environment in busy places

There is a growing need for new solutions that help prevent the spread of viruses, in particular in busy facilities. As a response to the need for distancing and workforce issues, robots are an ideal solution for continual disinfection, in particular in hospitals, public buildings, commercial premises, kindergartens, schools, universities, shopping malls, public transport, airports...

The colloidal silver aerosol indoor disinfection robot aims to ensure a sterile environment in all busy places that have a high contamination level, without exposing staff to unnecessary risks. The staff in the disinfection environment being sprayed no longer need to face the storing of toxic, dangerous or corrosive chemicals or handle them.

The robot spraying colloidal silver into the contaminated area is operated via mobile application. Test results have shown that a 10-minute exposure to sprayed colloidal silver kills 99.99% of bacteria. The robot has a higher disinfection efficiency and a lower impact on the cleaning staff's operating procedures compared to existing solutions, and speeds up the disinfection of premises by 12 times.

Robotic colloidal silver spraying delivers greater effectiveness in tackling other hospital infections, reducing pathogens in hospital rooms, operating theatres and other hospital areas. Disinfection using colloidal silver has been proven to effectively destroy water-, air- and surface-borne microorganisms and provides lasting protection in a contaminated environment.























# SISTEM MENADŽMENTA KVALITETOM

*Nameru da bude vodeća kompanija u Srbiji i regionu, Koloid postiže rukovodeći se sistemom menadžmenta kvalitetom i politikom integrisanog sistema upravljanja. Visokim nivoom kvaliteta svojih proizvoda na relaciji tehnološke inovacije, zdravlje-lepota-zaštita, tehnologijom jona srebra, Koloid razume i zadovoljava sve zahteve svojih korisnika.*

Oslanjamo se na politiku integrisanog sistema upravljanja koja nas usmerava ka konstantnom poboljšanju performansi i unapređenju tehnologije rada

Kontinuirano brinemo o zdravstvenoj ispravnosti naših proizvoda/usluga

Odgovorno ispunjavamo obaveze prema klijentima, poslovnim partnerima i gradimo odnose zasnovane na savesnom radu i poštovanju

Imperativ našeg poslovanja je da u potpunosti ispunjavamo zahteve klijenata, tržišta i zakonodavstva

## Politika integrisanog sistema upravljanja

Neprekidnim unapređenjem sistema menadžmenta kvalitetom, sistema upravljanja zaštitom životne sredine, sistema menadžmenta higijenom i HACCP sistema, kao i sistema upravljanja zaštitom zdravlja i bezbednošću na radu, ispunjavanjem zahteva ISO 9001, Koloid obezbeđuje usaglašenost sa svim zakonima i propisima relevantnim za kvalitet i zdravstvenu bezbednost svih proizvoda i procesa.

Poslovne aktivnosti Koloid kompanije zasnovane su na principima Politike kvaliteta. Stalna briga o zdravstvenoj ispravnosti naših proizvoda jedan je od primarnih ciljeva naše kompanije kojem konstantno težimo i kontinuirano ga sprovodimo. Kao odgovorna kompanija, obavljamo stalnu proveru parametara kvaliteta u odnosu na utvrđene zahteve specifikacija, zakonskih propisa i pravilnika, koji su u skladu sa propisima EU i svih zemalja u kojima poslujemo.

Negovanjem naše tradicije, umeća i znanja, čuvamo visok kvalitet naših proizvoda i ostvarujemo konstantna poboljšanja, što za rezultat ima stalno povećanje indeksa zadovoljstva naših potrošača. Različitost je ključna vrednost našeg poslovanja, a to su prepoznali i naši korisnici. Visoka stručnost zaposlenih kadrova, rigorozni higijensko-bezbednosni standardi, adekvatna oprema i kontrolisani uslovi radne sredine jedini su pravi put za kreiranje i razvoj proizvoda i plasiranje usluga vrhunskog kvaliteta. Ovu činjenicu potvrđuje besprekoran rad našeg proizvodnog pogona, razvijenog u saradnji sa partnerima iz Nemačke, Kanade, Amerike i Rusije, koji sublimira nekoliko proizvodnih jedinica. Proizvodni pogon naše kompanije funkcioniše po principima standarda proizvodnog menadžmenta, oslanjajući se na politiku integrisanog sistema upravljanja, usmeravajući nas ka konstantnom poboljšanju performansi i unapređenju tehnologije rada.

# QUALITY MANAGEMENT SYSTEM

*In its pursuit of becoming a leading company in Serbia and the region, Koloid employs a quality management system and an integrated management system policy. Koloid understands and meets all its customers' needs through a combination of the high quality of its technological innovations, health-beauty-protection products and its use of silver-ion technology.*

- ✓ We rely on the integrated management system policy guiding us towards constant improvement of performance and technology
  - ✓ We never cease to make sure our products/services are safe
- ✓ We responsibly meet the obligations towards customers and business partners and build relations based on good faith
  - ✓ A must in our business is to fully meet the needs of our customers, markets and legislation

## Integrated management system policy

The continual improvement of the quality management system, environmental management system, hygiene management system and HACCP system, as well as the occupation health and safety management system, meeting ISO 9001 requirements allows *Koloid* to ensure compliance with all laws and regulations relevant to the quality and safety of all products and processes.

*Koloid's* business activities are underpinned by Quality Policy principles. Constantly making sure that our products are safe is one of the principal objectives of our company that we constantly pursue and deliver on. As a company practising corporate responsibility, we continually check quality parameters against set requirements in specifications, regulations and rules which are in line with EU laws and the laws of other countries where we operate.

By cherishing our tradition and know-how we ensure a high-quality of our products and constantly improve it, resulting in a continual increase in our consumer satisfaction index. Diversification is the core value of our business, which has been also recognised by our users. High-level expertise of our employees, strict hygiene and safety standards, appropriate equipment and controlled conditions of the work environment are the only way to create and develop products and offer top-quality services. This is attested to by the smooth operation of our production facility, developed in cooperation with partners in Germany, Canada, the US and Russia, which consists of several production units.

Our production facility operates on the principles of good manufacturing practices, relying on the integrated management system policy, guiding us towards continual improvements in performance and technology.





# NAŠA VIZIJA

*Naša vizija je da konstantno unapređujući tehnologiju jona srebra, osvojimo i učvrstimo leadersku poziciju na tržištu Srbije i izađemo na evropsko i svetsko tržište sa priznatim, prepoznatljivim i konkurentnim rešenjima. Zadovoljstvo klijenata postizemo potpunim ostvarenjem i prevazilaženjem njihovih zahteva, potreba i očekivanja, integrišući sopstvena znanja, iskustva i sposobnosti u oblasti automatizacije procesa.*

Naša vizija je usmerena na svrhu onoga što radimo i služi kao standard i cilj ka kome svakodnevno težimo

Glavni cilj kompanije Koloid je promovisanje zdravog načina života

Sa tradicijom konstantnog uvođenja inovacija, pomerili smo granice našeg poslovanja u pravcu pametne aerosolne dezinfekcije kontaminiranog prostora

Kompanija Koloid je sinonim za pametne inovacije

## Mi smo već danas spremni za sve što donosi sutra

Živimo u vreme ubrzanog napretka tehnologija i nastojimo da pored razvoja novih proizvoda, budemo kompanija koja daje pravi doprinos primeni najsavremenijih tehnoloških rešenja u korist naših korisnika. Težimo da postanemo nezaobilazni učesnik i partner u razvoju novih tehnologija i njihovoj sofisticiranoj primeni, sa ciljem da se svrstamo u red lidera u kreiranju, projektovanju i uvođenju najkvalitetnijih procesnih rešenja. Svoja znanja, inovativnost i uticaj stavljamo u službu uspešnog korišćenja novih tehnologija, na zadovoljstvo nosilaca procesa i korisnika proizvoda i usluga. Stoga, konstantno unapređujemo svoju efikasnost i kvalitet rada podižemo na viši nivo. Delujemo konstruktivno, pružamo pouzdanost i negujemo poverenje kod naših partnera i korisnika usluga. Stremimo ka tome da naš ekspertski tim bude uzor posvećenosti stalnom tehnološkom razvoju koji oblikuje budućnost za opštu dobrobit. Mi smo kompanija koja iznova postavlja nove standarde poslovanja i kreira trendove, kako bismo kupcima ponudili što bolju vrednost.

Vodimo se konstantnim unapređenjem kvaliteta kroz inovativna tehnološka rešenja, automatizaciju i racionalizaciju proizvodnje. Naša vizija je vidljiva i odnosi se na povećanje naučnog i tehnološkog kapaciteta kompanije, efikasnim prenošenjem znanja i ekspertize partnera. Uspešno udruživanje i prateće akcije stvaraju novu generaciju eksperata sposobnih da dizajniraju, koordiniraju i sprovode eksperimentalna istraživanja sa jasnom vizijom mape puta, posebno usmerene na razvoj novih proizvoda i usluga. Brinemo o društvenim vrednostima, negujemo i ističemo značaj socijalno-odgovornog poslovanja, kroz poštovanje svih zakonskih propisa i etičkih normi. Prateći najnovije trendove u nauci i visokoj tehnologiji, koristimo najmodernija tehnološka dostignuća, a u cilju najvišeg standarda usluga, čime ćemo, kao i do sada, našim klijentima omogućiti neophodnu i kompletnu zaštitu. Predanost naših zaposlenih, fleksibilnost i bliskost koju osećamo sa našim kupcima na lokalnom i ino tržištu, čine nas njihovim prioritetnim partnerom.



*Our vision is to build our own silver ions technology and strengthen the leading position on the Serbian market and then enter the European and global markets with a recognised, recognisable and competitive solutions. Our customers are satisfied because we fully meet their demands, needs and expectations and go a step further, integrating own know-how in process automation.*

- ✓ Our vision focuses on the purpose of our work and sets a standard and objective we pursue every single day
  - ✓ Koloid's main objective is to promote a healthy lifestyle
- ✓ With a tradition of constant innovation, we have moved the goal posts of our business to include intelligent disinfection of contaminated areas
  - ✓ Koloid is synonymous with smart innovation

## We are today ready for whatever lies ahead!

We live in times of rapid technological advancement and endeavour, in addition to new product development, to be a company that truly contributes to the application of the most up-to-date technological solutions to benefit our customers. We strive to become indispensable as a participant and partner in developing new technologies and their sophisticated application, with a view to becoming one of the leaders in creating, designing and introducing the highest quality process solutions.

Our know-how, innovations and impact serve for the successful use of technologies, at the satisfaction of process owners and product and service users. Therefore, we are constantly improving our efficiency and raising the quality of our work. We act in a constructive manner, provide reliability and cherish the trust of our partners and service users. We strive for our team of experts to be a model of dedication to continual technological development that shapes the future for the public good. We are a company that sets new business standards and sets trends time and time again in order to give customers the best possible value.

We are guided by constant quality improvement through production innovation, automation and rationalisation. Our vision is visible and covers the increase in the scientific and technological capacity of the company, through the efficient transfer of our partners' know-how. Successful coming together and related activities create a new generation of experts capable of designing, coordinating and conducting experimental research with a clear vision of road map, focused on new product and service development.

We care about social values, cherish and insist on the importance of corporate responsibility through compliance with all laws and ethical standards. Keeping up with the trends in science and high-tech, we use the most up-to-date technological advancements to ensure the highest standards of services providing our customers, as we have done so far, with the full protection needed. The commitments of our employees, the flexibility and closeness we feel towards our customers on the local and international markets make us their number one partner.





# UGOVOR O POVERLJIVOSTI

*Potpisivanjem Ugovora o poslovnoj tajni ili poverljivosti, kao zakonskoj kategoriji koja uživa pravnu zaštitu, Koloid želi da sačuva svoju intelektualnu svojinu. Poslovnu tajnu naše kompanije štiti Zakon o zaštiti poslovne tajne, koji normira njenu sveobuhvatnu zaštitu.*

## Čuvanje poslovne tajne

Zakon o zaštiti poslovne tajne definiše poslovnu tajnu kao bilo koju informaciju koja ima komercijalnu vrednost iz razloga što nije opšte poznata, niti je dostupna trećim licima koja bi njenim korišćenjem ili saopštavanjem mogla ostvariti ekonomsku korist i koja je od strane njenog držaoca zaštićena odgovarajućim merama u skladu sa zakonom, poslovnom politikom, ugovornim obavezama ili odgovarajućim standardima u cilju očuvanja njene tajnosti, a čije bi saopštavanje trećem licu moglo naneti štetu držaocu poslovne tajne.

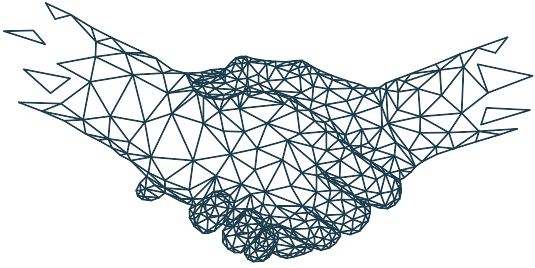
Poslovna tajna kompanije Koloid štiti se Ugovorom o poverljivosti podataka, kao modaliteta kojim želimo da zaštitimo naš patent.

Zakon o zaštiti poslovne tajne nas u ovom kontekstu štiti, a potpisivanjem ugovora treća lica ne smeju odati poslovnu tajnu, jer bi u suprotnom njenim saopštavanjem to moglo naneti štetu držaocu poslovne tajne.

Zakon o zaštiti poslovne tajne kompanija Koloid reguliše potpisivanjem Ugovora o poverljivosti sa naručiocem, u kome se eksplicitno navodi koje se sve informacije po pravilu štite kao poslovna tajna. U našem slučaju to su ekonomski, poslovni, naučni, tehnički, tehnološki i proizvodni podaci, studije, testovi efikasnosti, rezultati istraživanja, uključujući i formulu, plan, projekat, prototip, kod, model, program, metod, tehniku, postupak ili uputstvo internog karaktera. Koloid na ovaj način želi da sačuva svoju poslovnu tajnu, koja je zapravo intelektualna svojina kompanije.

Povreda odredaba Ugovora o čuvanju poslovne tajne povlači, između ostalog, i odgovornost prekršioca za nadoknadu pričinjene štete.

# CONFIDENTIALITY AGREEMENT



*By signing the Confidentiality Agreement, as a legal category enjoying legal protection, Koloid wishes to protect its intellectual property. Our company's trade secrets are protected by the Trade Secrets Act, which governs its overall protection.*

## Trade secrets

The Trade Secrets Act defines a trade secret as any information having a commercial value by virtue of it not being publicly known or available to any third parties who, by the use or communication thereof, could gain an economic benefit and which is protected by its holder by way of certain measures in accordance with the act, business policy, contractual obligations or relevant standards aimed at keeping it confidential, the communication of which to any third party could cause damage to holder of the trade secret.

*Koloid's* trade secret regarding the production process for colloidal silver, used by a disinfection robot to decontaminate an area, shall be protected by the Data Confidentiality Agreement, as an arrangement we want to use to protect our patent. The Trade Secrets Act protects us in this context as by signing the rent agreement for the indoor disinfection robot, third parties shall not disclose the trade secret as it otherwise could cause damage to the holder of the trade secret.

The Trade Secrets Act is complied with by *Koloid* through the signing of a confidentiality agreement with a service user wherein it explicitly lists all information that is, as a rule, protected as a trade secret. In our case this includes economic, commercial, scientific, technological and production data, studies, efficiency tests, research findings, including the formulation, plan, design, prototype, code, model, programme, software, method, technique, procedure or an instruction of internal nature.

By doing so, *Koloid* wishes to protect its trade secret(s), which is, in effect, the company's intellectual property.

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