World is facing enormous challenges today where one of the most important is food supply for the growing population. In the next two decades we will have to produce more food than the total that we produced in the history of mankind. We have exhausted almost all resources and IT is of the rare unexploited resources. IT is entering agri-food sector with staggering speed in various ways. From innovative sensors, via new communication systems, remote sensing, and all the way to big data solutions. BioSense Institute is trying to meet this challenges by developing innovative solution in all IT-AgriFood cross-cutting fields. From nano and microelectronics technology for the development of innovative sensors, through IoT to big data – Institute has produces some of the world class results, thus contributing to the Agriculture of the Future. Many of them were realized within 25 H2020 in which BioSense participates. Also, some solutions are developed in close cooperation with the industry which getting more and more involved in IT solutions for agriculture. This talk will give an overview of current activities and the vision for the Future of Agriculture.