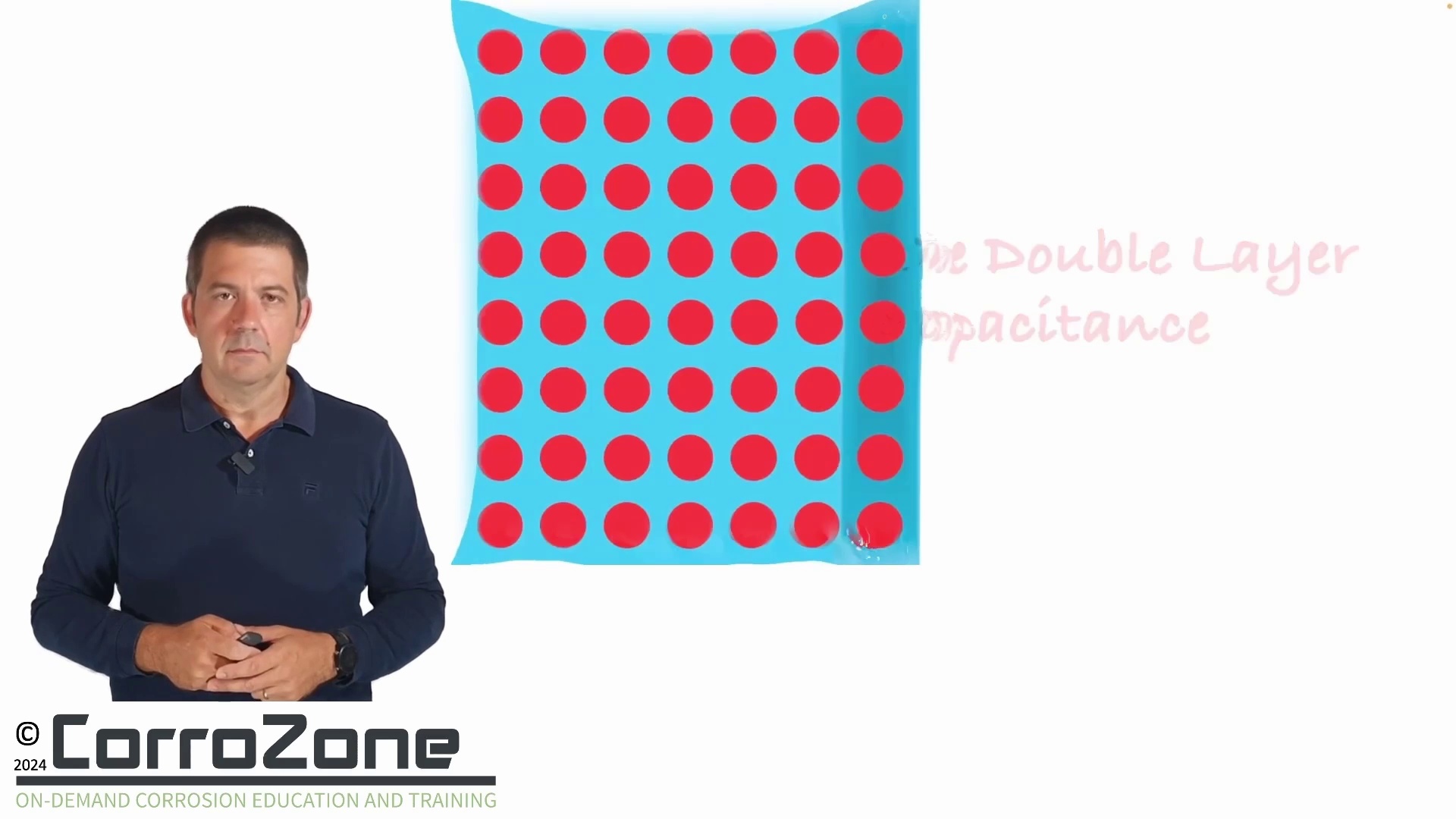
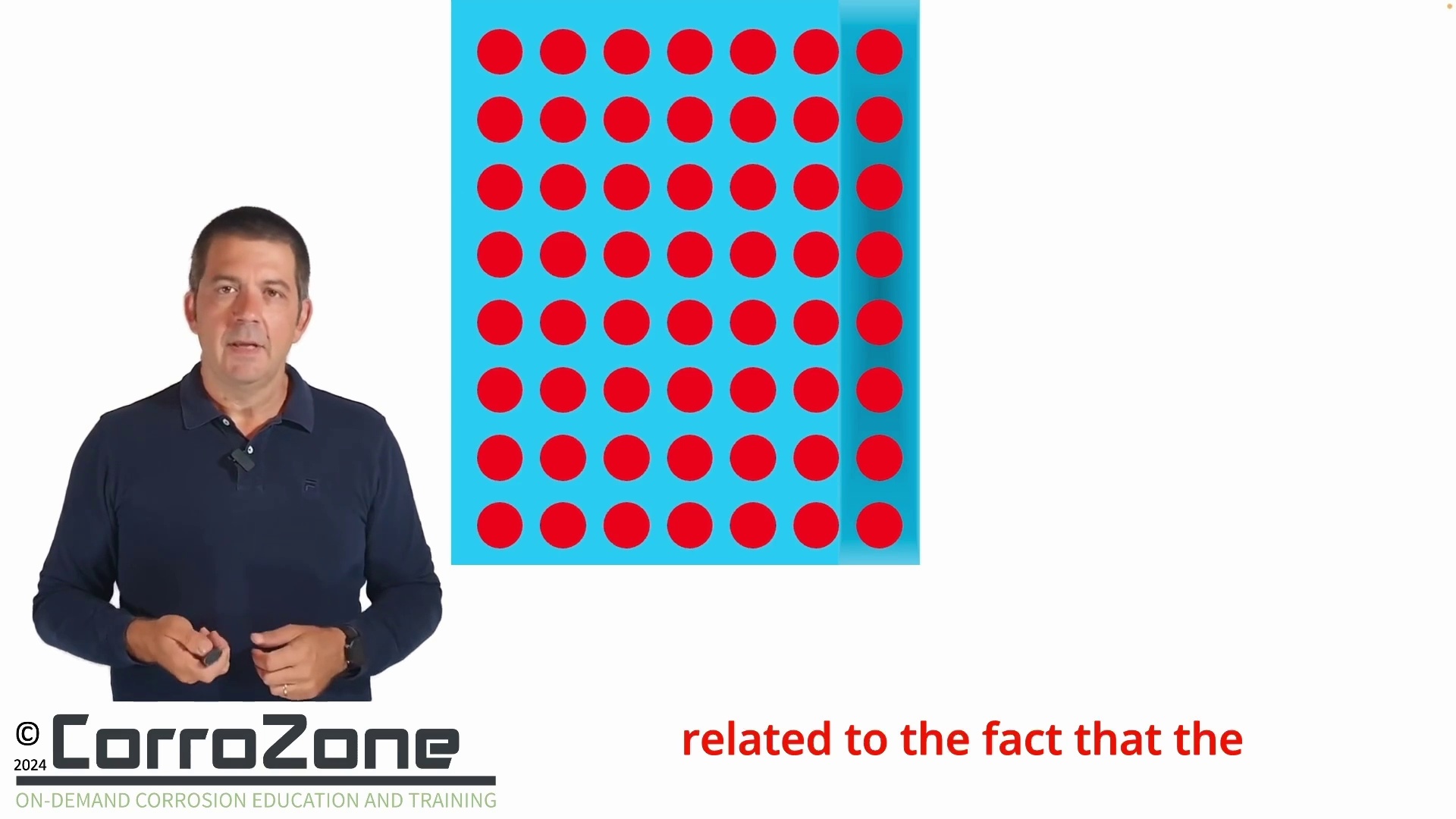
## Slide 1



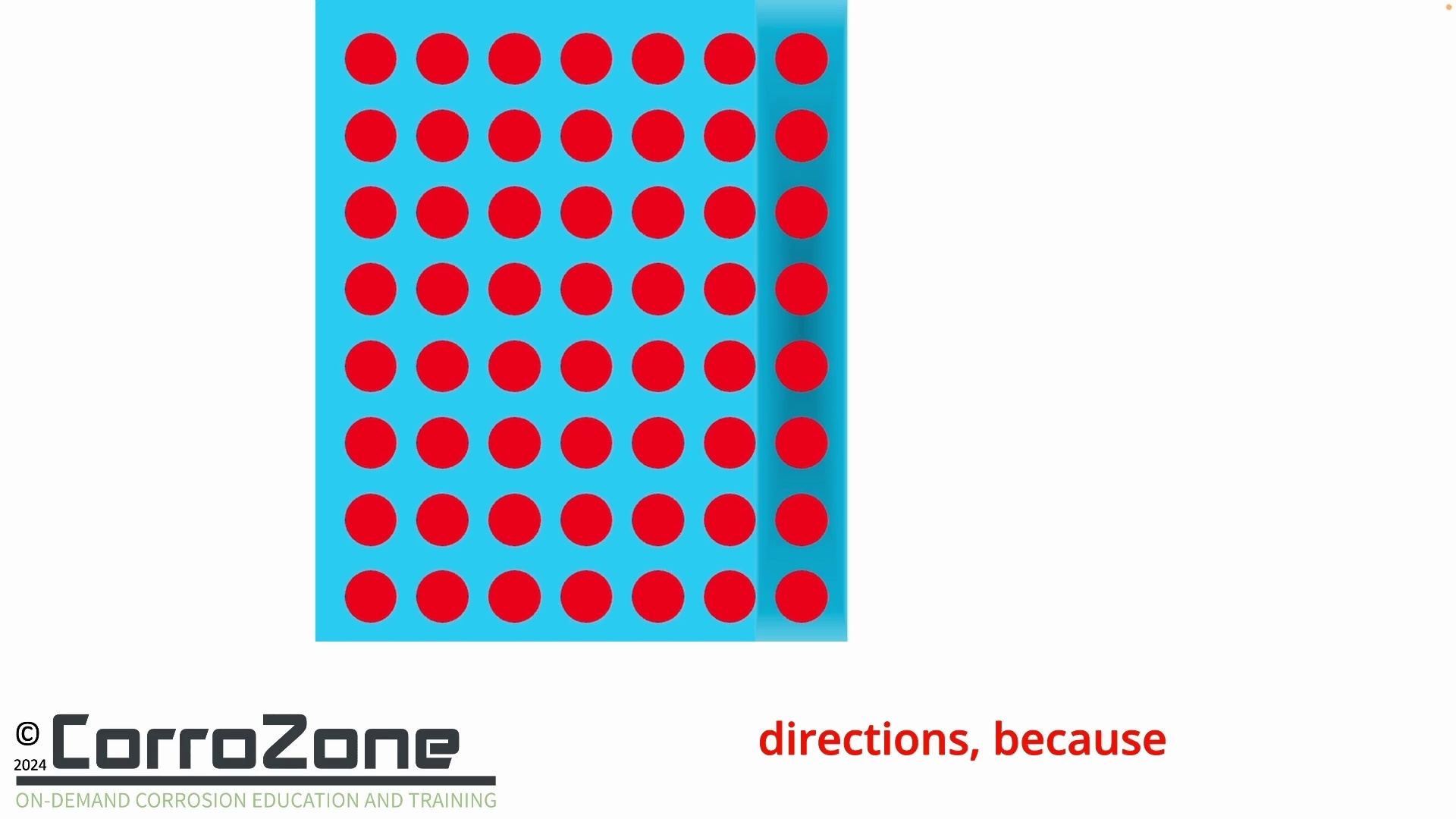
The presence of this electrical double layer at the electrode surface creates a capacitance, and this capacitance contributes to the impedance response. This occurs because there is a rearrangement of electrical charge within the metal near its surface.

## Slide 2



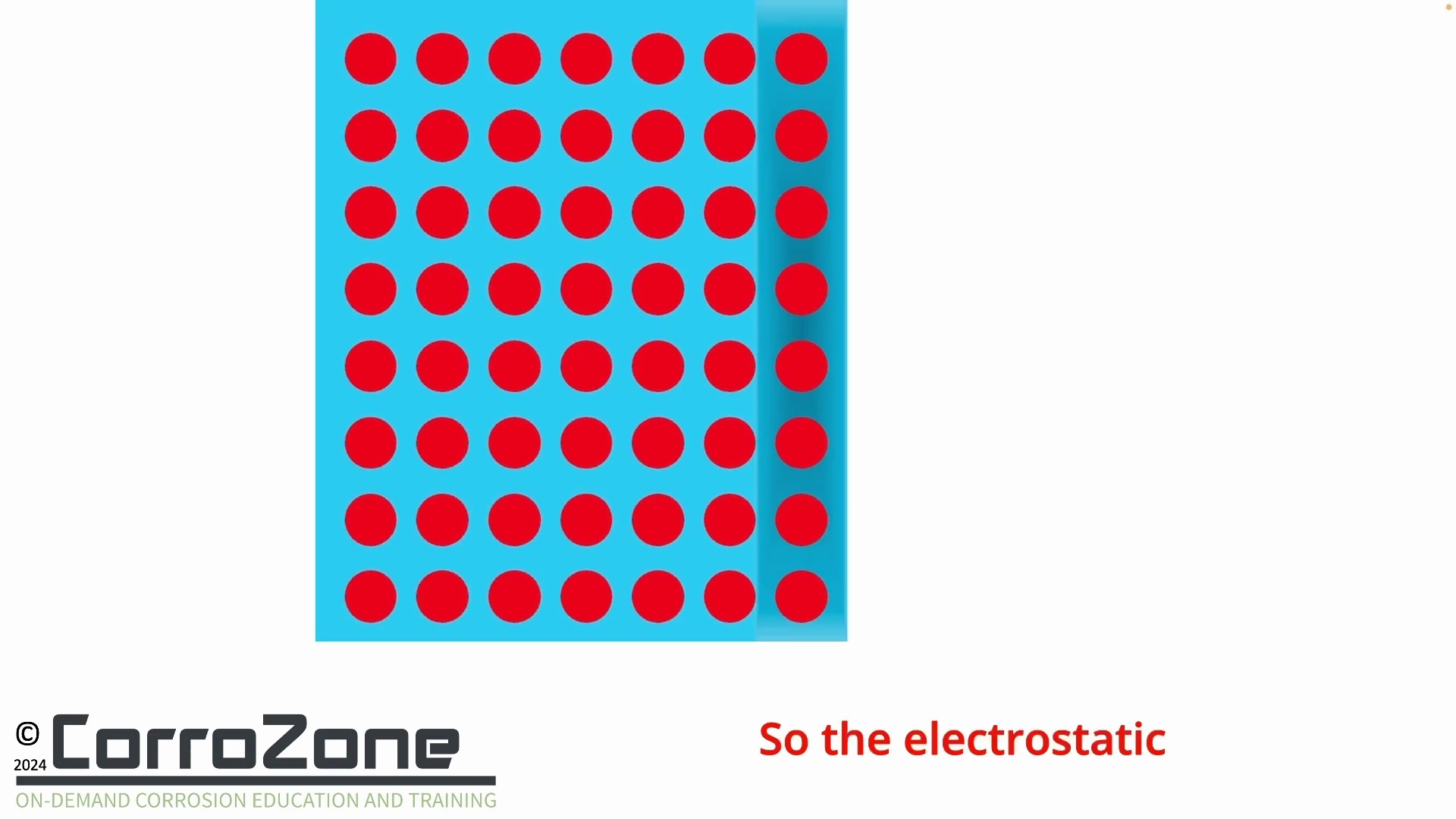
Intuitively, this is related to the fact that metal atoms far from the surface are surrounded by an electron cloud that is symmetrical in all directions, due to the extensive crystal lattice that exists in every direction.

## Slide 3



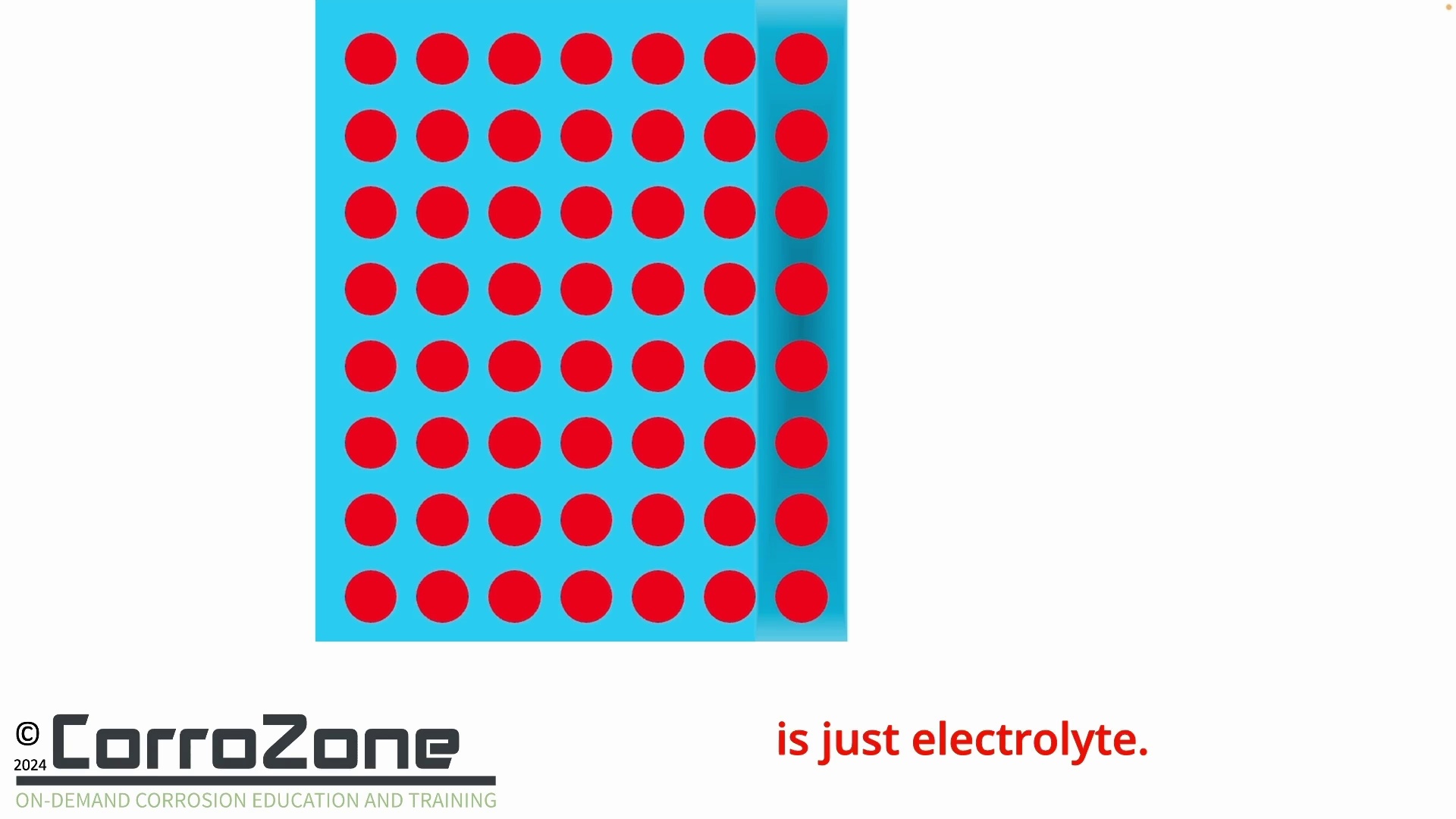
[No content detected]

## Slide 4



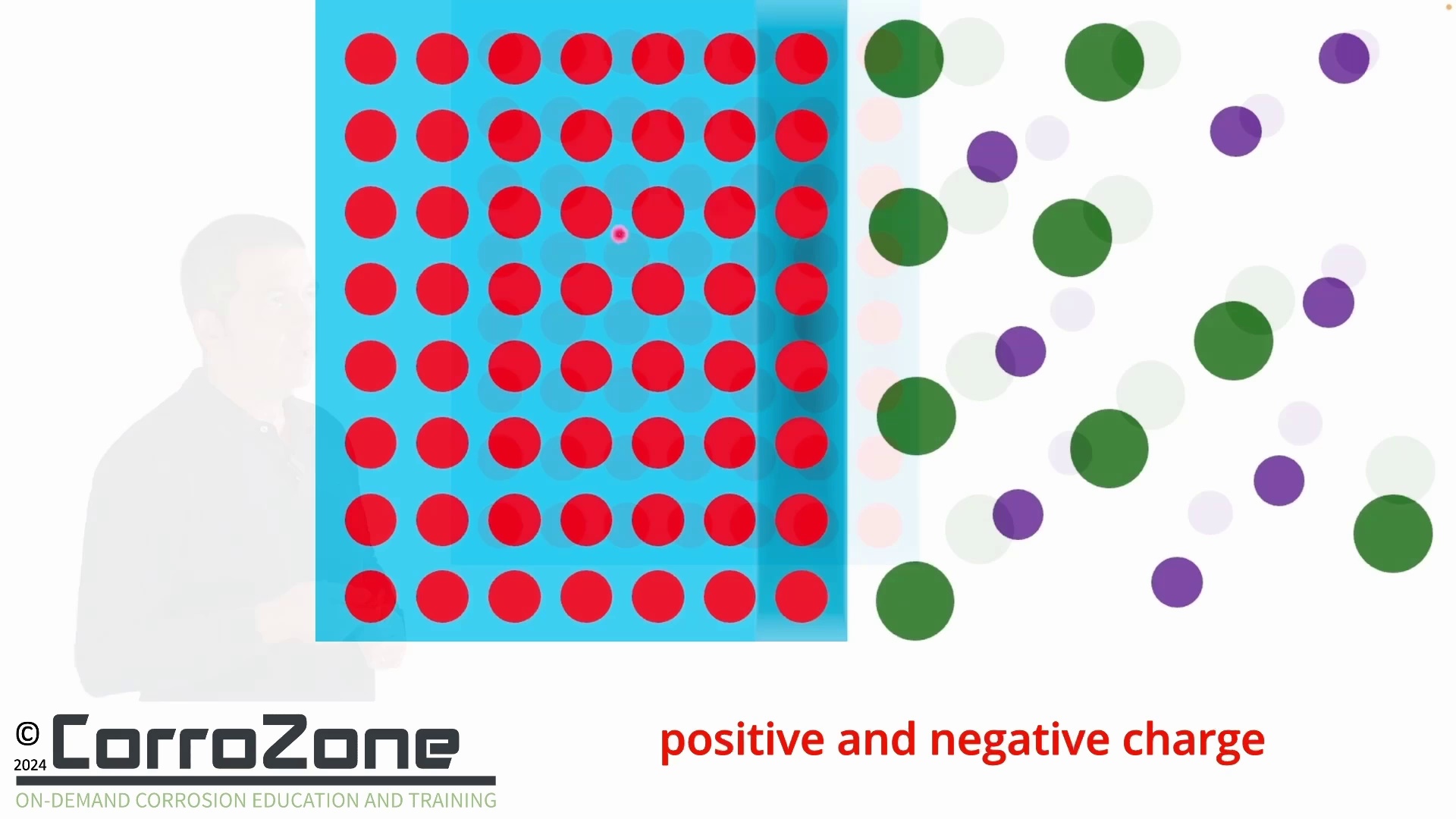
Therefore, the electrostatic interactions for an atom located far from the surface are balanced.

## Slide 5



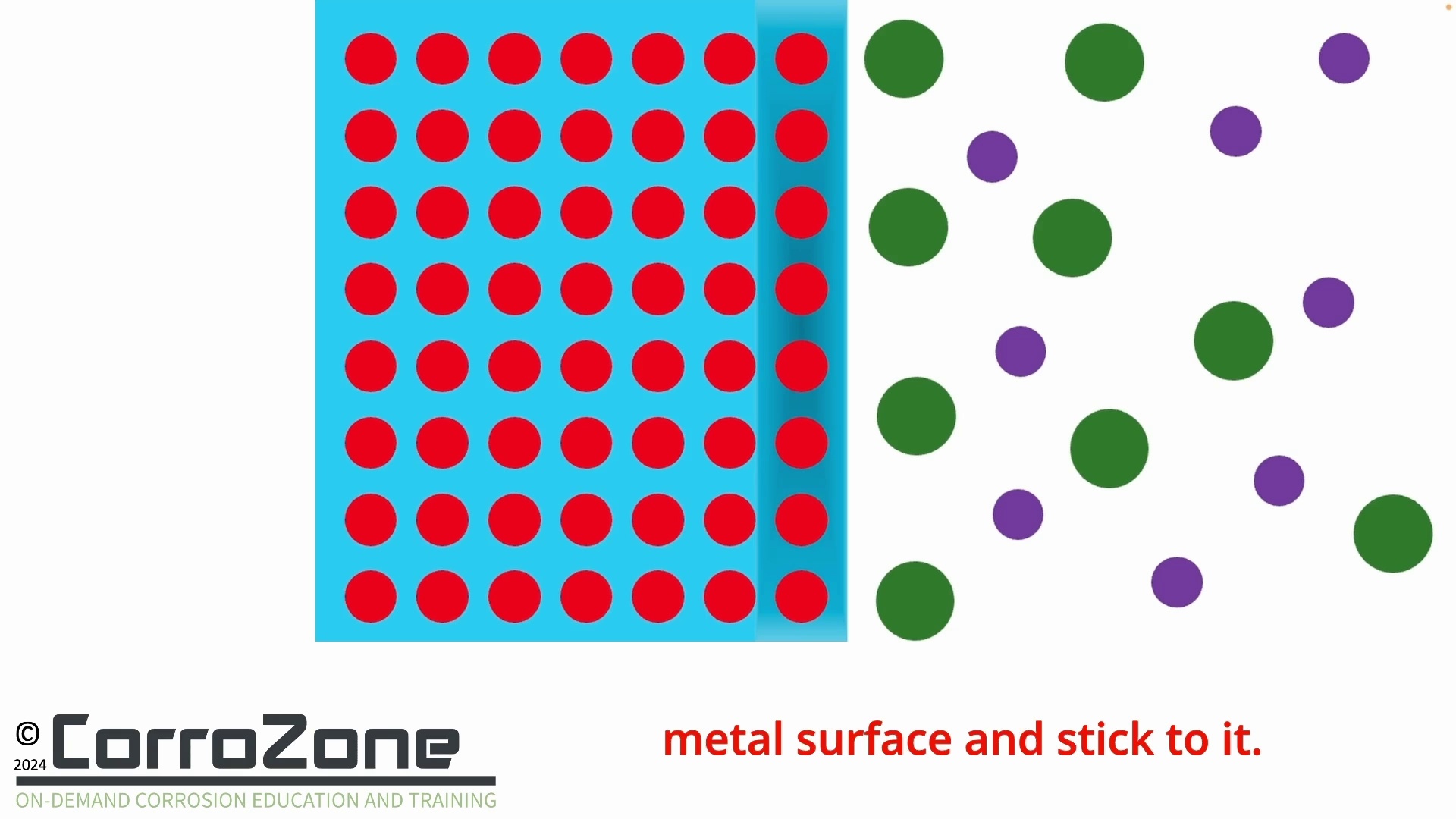
However, this is not the case for atoms at the metal surface, since on one side there is a whole crystal lattice, while on the other side, there is only the electrolyte.

## Slide 6



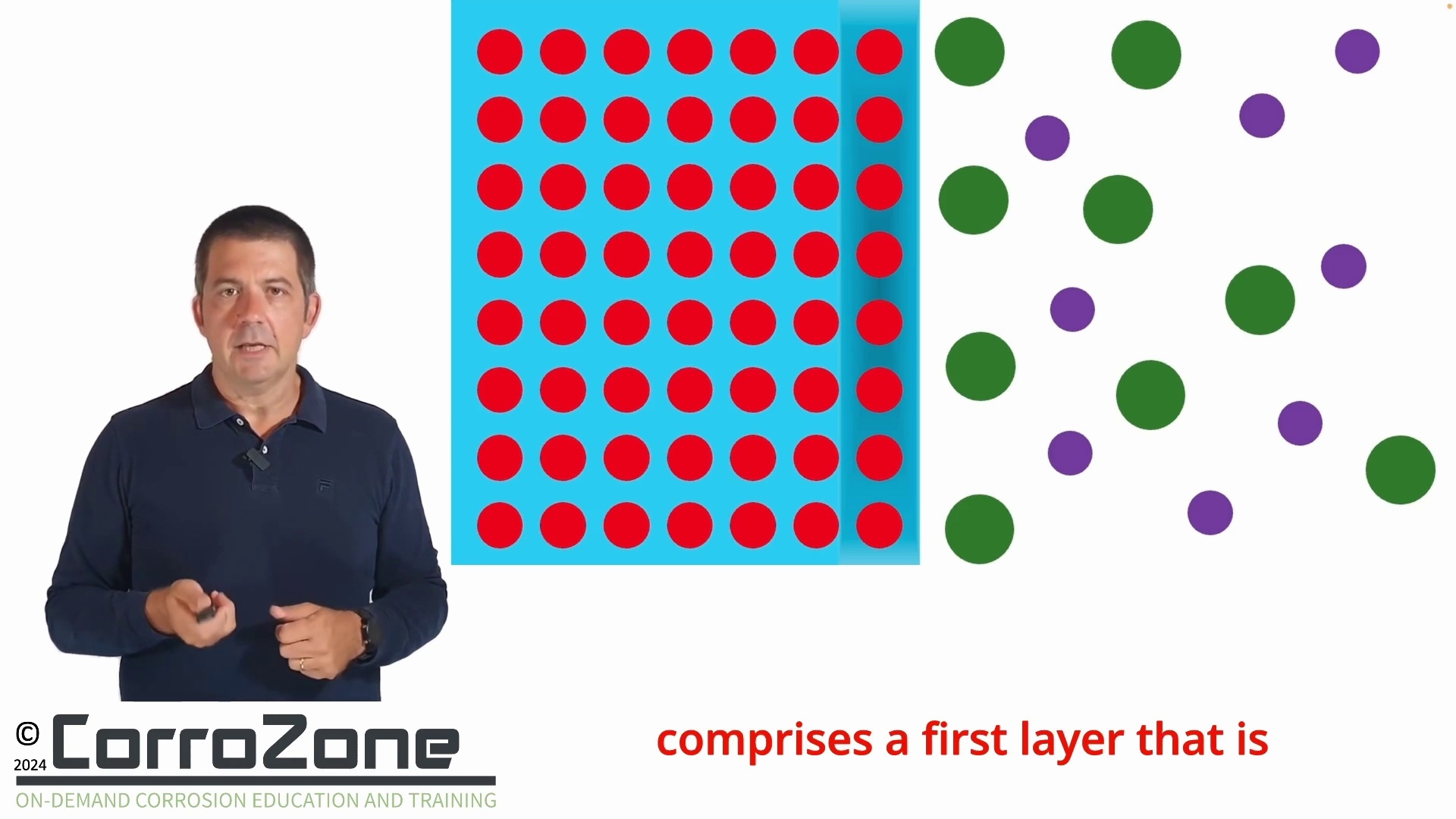
At the interface between the metal and the electrolyte, the charge redistributes and positive and negative charges accumulate on both sides of the interface.

## Slide 7



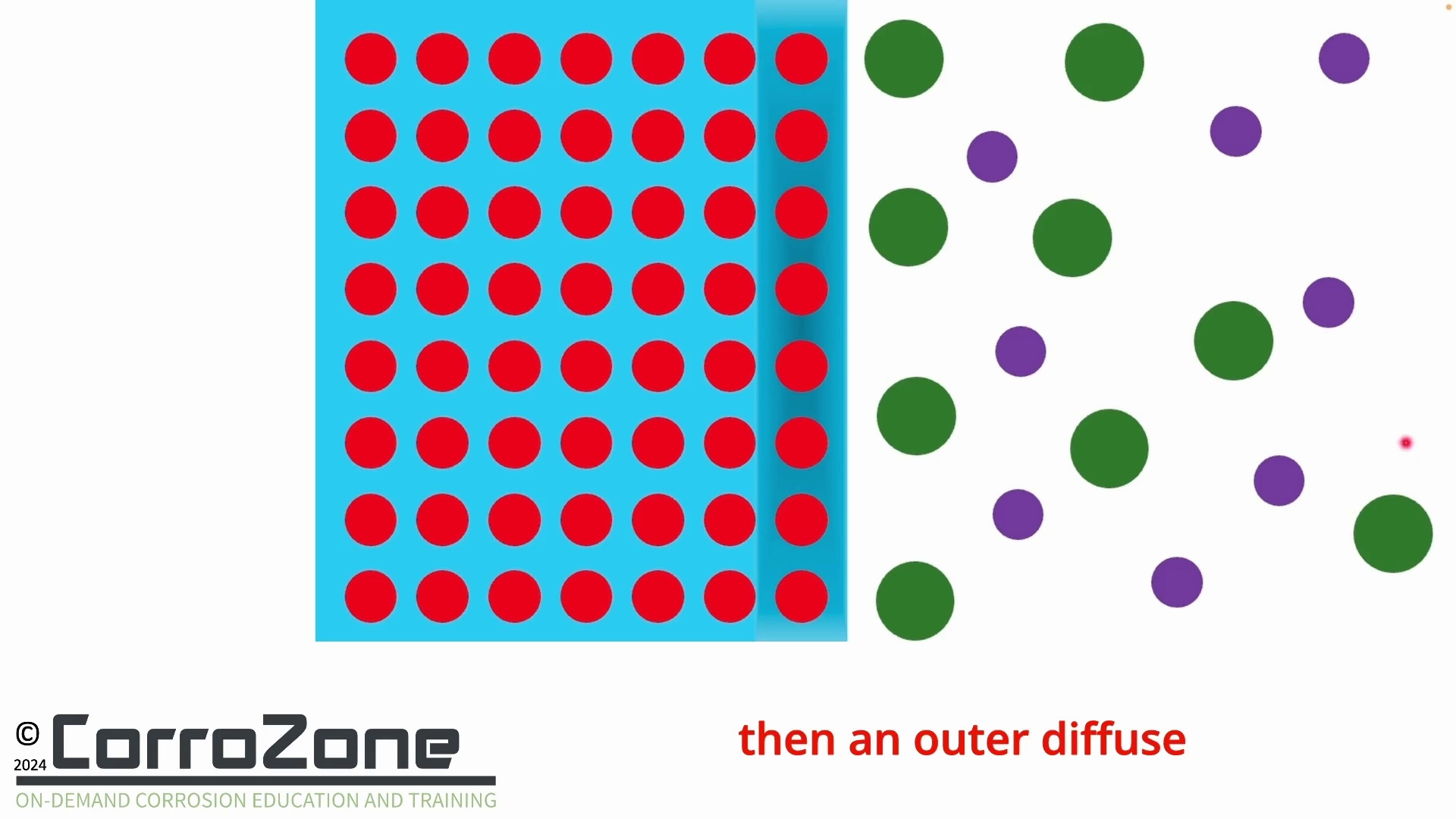
Additionally, some of the ions present in the electrolyte may have a tendency to adsorb onto the metal surface and adhere to it.

## Slide 8



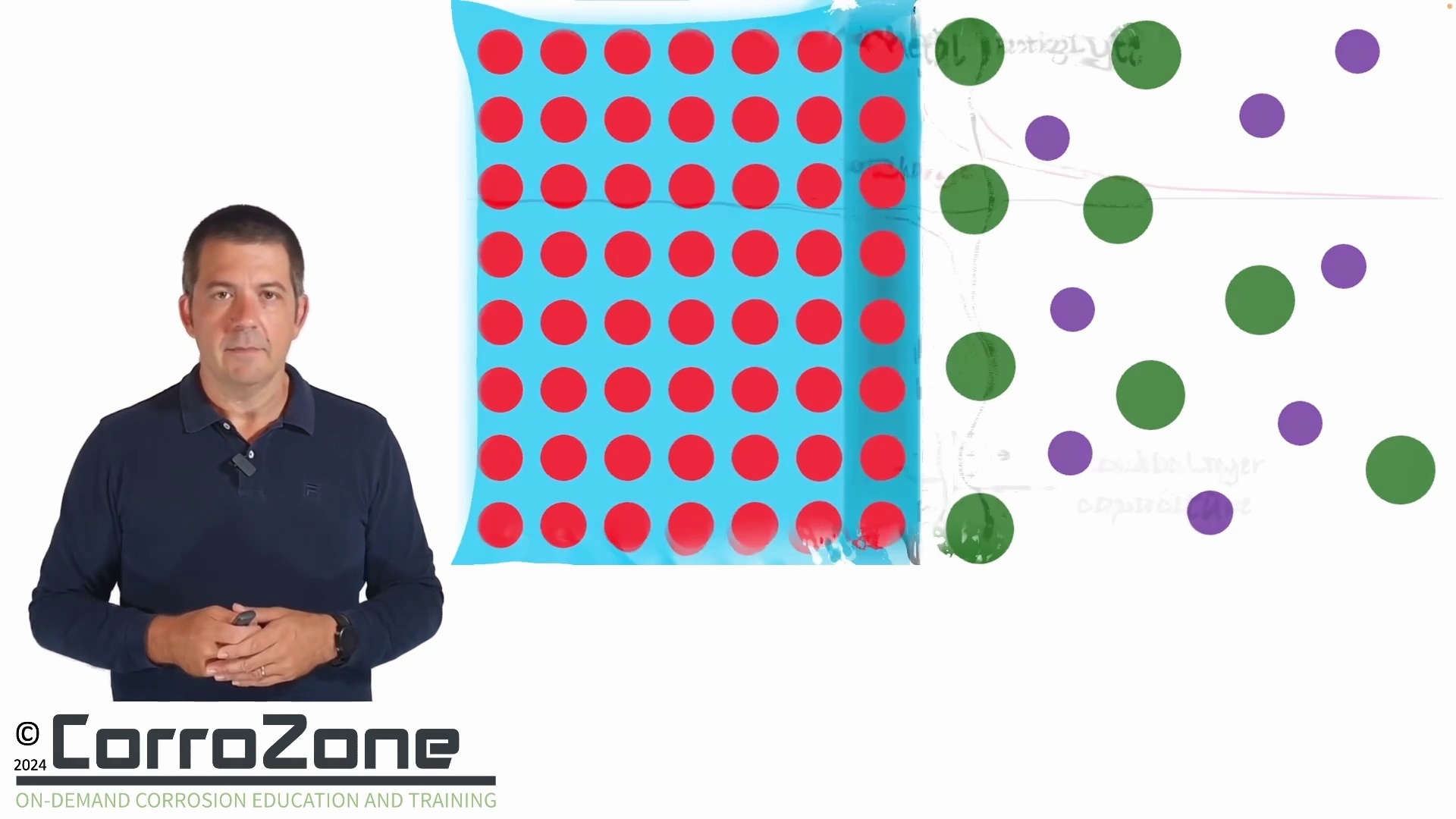
Altogether, this situation leads to the formation of what is known as an electrical double layer. The electrical double layer has been modeled in various ways, but broadly speaking, it consists of a first layer near the metal, where ions can be adsorbed to the surface, followed by a layer of loosely attached solvated ions, and then an outer diffuse layer, where charge accumulates and gradually decreases with distance from the metal surface.

## Slide 9



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## Slide 10



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