

Circuits and Migrants: How Physical Laws Can Provide Insight into the Refugee Crisis  
By Nick Briggs

Ideas, philosophies, and religions have long radiated from the Middle East, as have people. We live during one of the largest Middle Eastern diasporas in decades. As millions flee to Europe and elsewhere, governments have found themselves overwhelmed by the sheer volume of incomprehensibly desperate people. European politicians argue endlessly on policy as EU member states take up various positions ranging from Germany's "*Willkommenskultur*" (Welcome Culture) to the barbed wire fences of Hungary. The EU itself has doubled down on its border security to decrease the flow of migrants. The results of this policy are hard to predict accurately, but natural laws rarely fail to provide some sort of insight. Ohm's Law,  $V = I \cdot R$ , is most commonly known for its applications involving circuits, but it is widely applicable in other situations as well, ranging from plumbing to the actions of a crowd vacating a stadium. Voltage (V) is the difference between two states, and is the driving force. Current (I) is the rate of flow, and resistance (R) is a measure of the difficulty of transition. If you imagine an avalanche crashing down the side of a mountain, the falling snow would be analogous to current, any trees in the way would be the resistance, and the height of the fall would be the voltage. Applying this lens to the EU, voltage is already precariously high. Overvoltage can result in catastrophic failures, i.e. electrical arcing, burst pipes, or dead refugees. By fortifying the outer border, the EU has increased resistance, and thus voltage. However, increasing the flow of migrants without changing the resistance would have the same effect, overloading current bureaucratic institutions even further. To solve this crisis as quickly as possible, the EU must further streamline the processing and resettling of refugees (raising I) while simultaneously making it easier for these people to successfully migrate (lowering R). In this, the EU states must act as one. A balance must be struck between the needs of the EU's various members and our shared duty to help our fellow human beings in times of great suffering.