General Motors (GM) uses large conveyor platforms, or skillets, as a part of its truck cab assembly process. These skillets have two speeds: a low speed for assembly and a high speed for transport. The transition between speeds creates a gap between the skillets where materials or people could fall on to the rails. To ensure no stray parts or people are still on the skillet, a light curtain is used to scan for solid objects. This system has multiple significant blind spots and must be deactivated when desired objects (the cab and accompanying cart) pass by.

GM wishes to optimize this Programmable Safety System (PSS) to properly detect any undesired objects on the skillet platform. The system should detect humans at any point on the platform. The system could also check for other stray objects, more efficiently detect the position of the cab, or automatically remove the obstruction, depending on the available technology and constraints.