The globally pioneering solution represents a novel method of Livestock Identification with corresponding Ownership Interface. This electronic system also includes capability for scientific management of livestock throughout its life-cycle. In addition, it offers administrative authorities full scale e-Governance capability, using as the foundational platform a centralized national-level electronic database of livestock known as the National Livestock Registry containing all relevant data relating to livestock and their ownership in uniquely designed formats. The entire system is operationalised by means of secure proof of ownership protocol for livestock, species-wise, utilising a single, unique identity reference allocated to each owner valid for life and interfaced with the unique electronic identities of each individual animal. The entire, harmonised system works for each country as a whole, percolating to dedicated field level units known as Livestock Identification Centres which serve to complete livestock enrolment procedures. The holistic system facilitates efficient national livestock administration, ensuring compliance by livestock owners with laid-down laws and national directives, especially animal health related. The revolutionary system also helps to plan and monitor welfare measures to target livestock populace and to maintain stringent levels of internal security and border regulation relating to movement of livestock. Importantly, the system is further capable of providing extremely reliable supply chain traceability for meat and co-products on a global basis, as well as scientific tracking lost or stolen animals. Thus, what is respectfully sought to be placed before the distinguished audience at the ICAR 2012 Conference at Cork in Ireland is a system with far-reaching impact which traverses significantly beyond mere on-farm and on-animal devices for identification and tagging. © 2010-12 All Rights Reserved By CSS Rao